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PAPERS AND REPORTS

RELATING TO

MINERALS AND MINING

COMPRISING

STATEMENT BY THE MINISTER OF MINES;
REPORT ON THE GOLDFIELDS;
REPORT ON COAL-MINES;
STATE COAL-MINES.



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MINES STATEMENT.

BY THE HON. JAMES MCGOWAN, MINISTER OF MINES.

MR. SPEAKER,—

I have the honour to present my eighth annual Mines Statement to Parliament.

It is my agreeable duty to announce that the year 1906 has been a most prosperous one for the mining industry; the returns show the value of the mineral production for the past year to be the highest yet attained, and to constitute a record in the history of this colony.

The gross value of all minerals produced during 1906 amounted to £3,871,811, being £249,025 in excess of 1905.

The coal-output and the yield from the quartz-mines show a considerable increase, and this colony has now the distinction of possessing in the Waihi Gold-mining Company and the Westport Coal Company the most productive gold-mining and the third most productive colliery company in Australasia.

It is gratifying also to record that 35 per cent. of the total yield of our gold-mines during the year was declared in dividends, which return compares favourably with the results obtained in any country, and proves conclusively that gold-mining is conducted generally on a sound basis in New Zealand.

MINERAL PRODUCTION.

The annexed Table No. 1 shows the quantity and value of gold, silver, and other minerals (including kauri-gum) exported during the year ending the 31st December, 1906, also the quantity of native coal consumed in the colony during the same period.

The amount of gold entered for export was 563,843 oz., valued at £2,270,904, and of silver 1,390,536 oz., valued at £143,572, making a total value of gold and silver amounting to £2,414,476, this being an increase of £199,998 as compared with the export returns for the previous year.

Other minerals, including coal, lignite, and kauri-gum, represent a value of £1,457,335, or an increase of £49,027 as compared with that of the previous year.

1—C. 2.

The quantities and values of the chief mineral products for the past two years are summarised for comparison as follows:—

Product.	Year ending 31st December, 1905.		Year ending 31st December, 1906.	
	Quantity.	Value.	Quantity.	Value.
Gold	520,485 oz.	£ 2,093,936	563,843 oz.	£ 2,270,904
Silver	1,179,744 "	120,542	1,390,536 "	143,572
Copper ore	4 tons	17	...	...
Manganese-ore	55 "	165	16 tons	40
Mixed minerals	632 "	8,136	1,297 "	18,241
Colonial coal exported, including that used by Home steamers	122,817 "	107,062	141,641 "	122,614
Colonial coal used in New Zealand	1,462,939 "	731,469	1,587,895 "	793,948
Kauri-gum	10,883 "	561,444	9,154 "	522,486
Coke	15 "	15	5 "	6
Total value of production for 1906	...	...	...	£3,871,811.
" 1905	...	...	...	£3,622,786.
Total increase	...	...	...	£249,025

The total value of gold, silver, coal, and other minerals (including kauri-gum) produced up to the 31st December, 1906, was £96,747,251.

GOLD-EXPORT.

The quantity of gold entered for exportation through the Customs for the year 1906 was as follows: Auckland, 295,417 oz.; Nelson, 2,944 oz.; West Coast, 104,743 oz.; Otago and Southland, 160,739 oz.: total, 563,843 oz., valued at £2,270,904.

QUARTZ-MINING.

The most important mining operations in this country consist in the mining of quartz veins or reefs, and the extraction of the precious metals therefrom by means of stamp and other mills, and by the cyanidation and chlorination processes.

The prosperity of the quartz-mining industry may be gauged from the fact that during 1906 New Zealand quartz-mining companies paid in dividends £653,972, being 44 per cent. of the value of the bullion won by them. The Waihi Gold-mining Company declared during the year £347,135 in dividends as a result of treating 328,866 tons of ore, for a return of £781,553; the total dividends paid by this company to the end of 1906 amount to £2,271,753.

On the Karangahake Goldfield the Talisman Consolidated Mine has developed into a profitable concern, having declared during the year £60,000 in dividends as a result of treating 49,573 tons of ore for a return of £152,011.

In the Thames Goldfield, formerly one of the richest in Australasia, and from which about £7,000,000 was obtained from a narrow strip of ground barely 1,000 yards long, the Waiotahi Mine continues very productive. During the year £183,000 was declared in dividends as a result of treating 18,002 tons of ore and specimen stone for a return of £223,678.

The property formerly known as the Queen of Beauty has been secured by adjoining holders, save the reserve whereon is situated the shaft and pumping plant which at present unwaters the drainage-area. It is to be hoped the companies interested will see their way to develop the deeper levels of this area with a view to setting at rest the question of the payable nature of the deeper levels of the Hauraki Peninsula.

On the Reefton Goldfield the Progress Mines have maintained their yield, having declared in dividends £34,375 as a result of treating 59,100 tons of ore for a return of £91,200 during the year. The mines of the Consolidated Goldfields of New Zealand (Limited) have also maintained their position, declaring £12,119 as a result of treating 19,401 tons of ore for a return of £36,307 during 1906. The Keep-it-Dark Mine still maintains its reputation after thirty-three years' successful operations, having recently declared its one hundred and seventy-seventh dividend. During the year £9,000 was declared in dividends as a result of treating 13,300 tons of ore for a return (including £5,686 from the cyanide plant) of £18,887.

The reefs which were discovered during 1905 in the Upper Blackwater district by a party of prospectors, who were subsidised by the Government, have been recently acquired by the Blackwater Mines (Limited), an English company, and development operations on a considerable scale have been commenced.

On the other quartz-mining fields operations are not at present being conducted on any considerable scale.

As developments proceed, satisfactory promise of the future prosperity of the quartz-mining industry is obtained. At the Waihi Mine the Martha and other reefs are maintaining their values with depth; at the Talisman Mine 1,500 ft. vertical has been proved on the vein, and the dividends declared are increasing in value; on the Thames field payable gold has been obtained in the May Queen Mine at a depth of 720 ft.; and at the Waiotahi Mine development work at the lower levels is meeting with success. At Reefton a depth of 1,700 ft. has been attained, and dividends are still forthcoming at one mine after thirty-three years' successful operations. In the State of Victoria reef mining is now being carried out profitably at a depth of 4,175 ft., and from the evidence the above mines supply it may reasonably be anticipated that the strong quartz-veins of this country will prove as permanent as those now worked in Victoria.

HYDRAULIC AND ALLUVIAL MINING.

These systems of mining are confined to the goldfields of the South Island, the principal centres being in the Nelson, Westland, and Otago Provinces, where it is to be regretted a diminishing output of gold annually takes place. This is due to the exhaustion of the shallow deposits by the large fleet of dredges built a few years ago, and to extensive hydraulic sluicing operations; also to the absence of water in the more remote auriferous localities.

The Tamaiti Gold-mining Company, which received a subsidy from the Government, has introduced a novel principle of working auriferous gravels. The water is raised from the Tuapeka River to a height of 30 ft. by means of a dam, and from that elevation operates a turbine and pump, giving a discharge of five heads on the terrace 150 ft. above river-level, the waste water being returned to the Tuapeka River. This comparatively inexpensive and efficient system of obtaining power for hydraulic sluicing might be advantageously applied in other parts of the colony.

The future of alluvial mining depends upon the working of the lower grade and the more inaccessible deposits, which have been neglected or overlooked by the earlier miners, or else have defied them by reason of the conditions under which they occur.

DREDGE-MINING.

The most extensive dredging-fields are situated in Otago and Southland, where, although a small falling-off of output has to be recorded for 1906, the continuance of successful operations for some years to come is assured. On the West Coast dredge-mining cannot be considered in a flourishing state, the working of flats having often proved a failure owing to the difficulties encountered in working or the absence of payable gold.

The number of dredges at work at the end of 1906 was 167, a decrease of eighteen as compared with those operating at the corresponding period of the preceding year. The sum of £103,722 was paid in dividends by fifty-seven dredges, the property of registered companies. The profits of privately owned dredges are considerable, as these number 110, but the amount paid by them is not available.

COAL-MINING.

The production of coal for the past year is the highest yet attained, being 1,729,536 tons, which exceeds the output during 1905 by 143,780 tons. The output from the three mining districts is shown in the following table :—

COMPARATIVE STATEMENT of COAL and LIGNITE raised during the Years 1905 and 1906.

Inspection District.	Output for 1906.	Increase or Decrease, 1906 and 1905.	Output for 1905.	Increase for 1905 over 1904.
	Tons.		Tons.	Tons.
Northern	301,186	Increase 41,310	259,876	17,359
West Coast	962,915	" 106,688	856,227	19,277
Southern	465,435	Decrease 4,218	469,653	11,282
Totals	1,729,536	Increase 143,780	1,585,756	47,918

The comparative tonnage of the various classes of coal, &c., for the years 1906 and 1905 is summarised as follows :—

Class of Coal.	Output for 1906.	Output for 1905.	Increase for 1906.
	Tons.	Tons.	Tons.
Bituminous and semi-bituminous	1,077,408	965,083	112,325
Pitch-coal	24,961	23,072	1,889
Brown coal	521,008	496,936	24,067
Lignite	106,164	100,665	5,499
Totals	1,729,536	1,585,756	143,780

The total recorded output of the various classes of coal, lignite, and oil-shale is now 23,430,955 tons.

The following statement shows the production, &c., of the principal collieries :—

Name of Colliery.	Locality.	Class of Coal.	Output for 1906.	Total Output to 31st De- cember, 1906.	Total Number of Men ordinarily employed.
<i>Northern District.</i>			Tons.	Tons.	
Hikurangi Coal Company (Limited) ...	Hikurangi...	Semi-bitu- minous	52,709	463,713	76
Taupiri Coal-mines (Limited) ...	Huntly ...	Brown ...	152,588	1,562,539	263
Northern Collieries Company (Limited)	Hikurangi...	Semi-bitu- minous	46,711	185,473	70
<i>West Coast District.</i>					
Westport Coal Company (Limited) (Coalbrookdale Collieries)	Westport	Millerton, bituminous	264,001	2,036,706	408
		Denniston...	307,555	4,416,755	586
New Zealand State Coal-mines	Seddonville (Westport)	Bituminous	36,713	118,743	90
	Point Eliza- beth (Grey- mouth)	"	163,800	355,871	260
Blackball Coal Company (Limited) ...	Blackball...	"	73,689	848,189	109
Tyneside Proprietary Coal Company (Limited)	Brunnerton	"	61,547	179,893	170
<i>Southern District.</i>					
New Zealand Coal and Oil Company (Limited)	Kaitangata	Brown ...	97,820	2,100,547	331
Nightcaps Coal Company (Limited) ...	Nightcaps...	" ...	48,976	518,439	83
Other collieries, in all districts ...	...	Various ...	423,427	10,644,087	1,246
Totals ... ..	...	...	1,729,536	23,430,955	3,692

New collieries on an extensive scale are being opened up by the Paparoa Coal-mining Company (Limited), near Greymouth; by the Westport-Stockton Coal Company (Limited), near Millerton, Westport; and by the Northern Collieries Company, at Hikurangi. Preparations for a greater annual production have been made at most of the larger mines, so that an annually increasing output of coal may be anticipated. The coastal plain on the western side of the Westport collieries, under which it is reasonably assumed that the coal-measures exist, are receiving attention, and two leases have been taken up for working the same. Mr. Jonathan Dixon, M.E., one of the leaseholders, proposes to immediately test the ground by diamond drills.

A seam of coal of considerable thickness and fair quality has recently been discovered at Avoca, on the Tangowahine Stream, within seven miles and easily accessible from the timber-shipping port of Tangowahine, on the Northern Wairoa River. The geological formation of the locality of the discovery appears to indicate the existence of a coalfield of considerable area.

STATE COAL-MINES.

Operations at the State coal-mines have been extended, and depots are now established at Wellington, Christchurch, and Wanganui for the sale of the coal to the public. The result of prospecting on the coal-reserve in the vicinity of the Point Elizabeth Colliery has disclosed valuable seams of coal of a highly bituminous nature. The profits of both State mines during the financial year ending 31st March, 1907, amounted to £8,460 19s. 1d.

In connection with the Seddonville State Coal-mine a briquette-manufactory has been established at Westport, and commenced experimental operations in June, 1907. The character of the Seddonville bituminous coal is eminently adapted for the manufacture of a high-quality briquette fuel. The plant is capable, when in full working-order, of manufacturing 1,000 tons per week.

KAURI-GUM.

One of the principal mineral exports of this country consists of fossil resin, the product of ancient forests of the kauri pine. This mineral occurs in great abundance in the northern part of the Auckland Province, from the North Cape to middle Waikato, over an approximate area of 814,000 acres.

The export of kauri-gum for the year 1906 was 9,154 tons (value £522,486), being a decrease of 1,729 tons (value £38,958) on the previous year's output.

The total export of this mineral had, at the end of 1906, reached 275,319 tons (value £13,443,017), and about five thousand diggers are engaged on the gumfields of the colony.

COPPER.

Owing to the high price of this metal considerable attention has been drawn to this branch of mining, and properties upon which work has been for some time suspended have again resumed operations.

In the North Island, near Whangaroa, active prospecting operations are being carried out by three syndicates. Near Woodville the Maharahara Copper-mines (Limited), an Auckland company, are further testing the large lode upon which many years ago a considerable sum of money was spent at a time when copper had a very much less market value than at present.

In the South Island, at Aniseed Valley, near Nelson, the Maoriland Copper Company has recently been formed to work the areas formerly owned by the Champion Company, and in connection with which smelting-works were erected twenty years ago. From this property two shipments of five hundred bags of ore (equal to 50 tons) have recently been exported to New South Wales for treatment at the Great Cobar Smelter.

An important discovery of copper has been made at Mount Radiant, which is situated about twelve miles south-east by bush track from the Harbour of Karamea, and at the head-waters of the Mokihinui, Little Wanganui, and Granite Rivers, all of which enter the Karamea Bight, on the west coast of the South Island. Ores of copper, and those of other metallic elements associated with the copper, have been already discovered for a distance of about five miles along the general trend of the veins, and for a distance of a mile and a half in the opposite direction. Several claims have been taken up, and the discovery is attracting considerable attention. If these properties maintain their ore-values upon development the find may be regarded as a valuable one.

Attention is also being given to this branch of mining in other parts of the colony, so that it is reasonable to anticipate at no distant date a considerable increase in the output of copper.

IRON.

At Parapara, near Collingwood, where extensive and valuable deposits of hæmatite ore exist, a light railway is in course of construction between the property and the ocean-beach, and it is hoped that active operations will be shortly commenced to work this valuable property.

PETROLEUM.

No further discoveries of petroleum have been recorded since that at Moturoa, near New Plymouth, referred to in my last annual Statement. Several companies have been formed, and boring operations are being actively carried out; but up to the present time no considerable supply of high-pressure oil has been proved, although the quality of that flowing at the prospecting company's well is satisfactory. Prospecting operations are also being carried on at Kotuku, near Lake Brunner, on the west coast of the South Island.

INTERNATIONAL EXHIBITION.

The mining exhibits at the International Exhibition at Christchurch were adequately representative of the mineral resources of this country, and bore ample evidence of the value of the same. It is to be regretted, however, that a considerable proportion of the mineral exhibits was displayed in the various provincial and district courts instead of being brought together in one comprehensive array, as were the excellent and imposing exhibits of the Dominion of Canada.

The Mines Department court was extensively patronised, and was awarded a number of gold and silver medals.

The mineral exhibits in the Auckland and West Coast courts were of exceptional merit.

An illustrated "Mining Handbook" was prepared and distributed to those desirous of obtaining reliable information regarding the mining industry.

SCHOOLS OF MINES.

The Schools of Mines, which have now been established twenty-two years, continue to contribute to the education of mining and metallurgical students at the principal mining centres.

Including the grants made to the School of Mines in connection with the Otago University, at Dunedin, the expenditure on behalf of these institutions during the past year amounted to £2,837 0s. 7d., and the aggregate expenditure since their initiation totals £42,613 4s. 8d.

ROADS AND TRACKS.

The expenditure on roads and tracks, constructed by direct grants during the financial year ending the 31st March, 1907, amounted to £37,914 13s. 3d., and by way of subsidies to local bodies £1,055 1s.

ALEXANDRA WATER-RACE.

An extension of this race in the direction of Alexandra for a distance of about four miles is being constructed, and the water will be of much benefit to the miners and settlers in the locality.

GEOLOGICAL SURVEYS.

As planned in my Statement presented to you last Session, during the season of 1906-7 detailed geological surveys were conducted in the Parapara Subdivision of Karamea, Nelson; in the Mikonui Subdivision of North Westland; in the Coromandel Subdivision of Hauraki, Auckland; and in the Cromwell Subdivision of Western Otago. A reconnaissance was also made into the rugged hinterland of South Westland, up the valleys of the Landsborough, Karangarua, and Twain Rivers. It is expected that at least three bulletins, which will give in detail the results obtained by the several surveys, will be published this winter—namely, on the Parapara, Cromwell, and Coromandel Subdivisions.

Next season, 1907-8, it is proposed to carry on detailed observations in the Thames Subdivision of Hauraki, Auckland; in the Whangaroa Subdivision of Hokianga, Auckland; in the Heaphy Subdivision of Karamea, Nelson; and in the Mikonui Subdivision of North Westland. As is well known, the Thames area has long been famous for the richness of its gold-mines, and it is hoped that further careful exploration in this important part of the country may lead to new discoveries of economic importance. The Whangaroa Subdivision presents many features of economic interest, among which may be mentioned the copper-bearing country stretching southward from the Township of Whangaroa. Most of the Heaphy Subdivision is quite unexplored, and it is thought that deposits of economic minerals may be found in this area.

DIAMOND DRILLS.

The three diamond drills purchased by the High Commissioner are now in the colony. These drills have a boring-capacity of 2,500 ft., 1,500 ft., and 1,000 ft. One of the drills has been fitted up at the Point Elizabeth State Colliery, in order to ascertain definitely the approximate cost of working. Conditions have been drawn up and sent out to the various applicants for the drills, which are to be allotted according to priority of applications, provided the users are prepared to enter into an agreement with the Government in accordance with the conditions laid down by the Department.

DEPARTMENTAL.

The work of the departmental officers throughout the colony has been carried on in a satisfactory manner. Consequent on the inauguration of the State coal-mines, the opening of coal-depots, and the increased work of the Geological Survey, the duties of the staff at the Head Office have considerably increased during the past few years.

The publication of the *New Zealand Mines Record* has been continued by the Secretary of the Mining Bureau, who also edited the "Mining Handbook" which was issued at the end of last year.

Mr. Alexander MacDougall, managing agent for the State coal-mines, having attained the age limit, retired. Mr. W. C. Gasquoine, who was manager of the depot in Wellington, and who has had considerable experience in the coal trade, has been appointed to the dual position.

Mr. James Fletcher, a highly capable mine-manager, has been placed in charge of the Seddonville State Coal-mine.

CONCLUSION.

In concluding my annual statement I am pleased to be able to state that arrangements are now progressing satisfactorily for the working of the deep quartz levels at the Thames and the deep alluvial leads at Ross, in Westland. During the past twenty years the importance of working these deep levels and leads has been discussed by the mining community, and various schemes have from time to time been outlined for their development. I think it may be confidently stated that definite action will shortly be taken for testing these deep levels at the Thames and Westland. Increased attention is now directed in different parts of the colony to the development of cupriferous ores, and the recent discovery at Mount Radiant is a hopeful indication of what may be anticipated from the opening-up of the mountainous country on the West Coast by roads and tracks. Never in the history of New Zealand has quartz-mining been in a more healthy condition; coal-mining is attracting capital for large operations; efforts are being made for testing our petroleum-deposits; and shale-mining is likely to be shortly resumed. Taking a general review of the mining industry as a whole, it may be said to be in a very satisfactory condition.

No. 1.

TABLE showing COMPARISON in QUANTITY and VALUE of GOLD entered for EXPORTATION, also the QUANTITY and VALUE of other MINERALS for the Years ended the 31st December, 1905 and 1906, as well as the TOTAL VALUE since the 1st January, 1853.

Name of Metal or Mineral.	For Year ending the 31st December, 1906.		For Year ending the 31st December, 1905.		Total from the 1st January, 1853, to the 31st December, 1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Precious metals—	Oz.	£	Oz.	£	Oz.	£
Gold	563,843	2,270,904	520,485	2,093,936	17,710,470	69,501,488
Silver	1,390,536	143,572	1,179,744	120,542	7,876,793	921,267
Total gold and silver	1,954,379	2,414,476	1,700,229	2,214,478	25,587,263	70,422,755
Mineral produce, including kauri-gum—	Tons.	£			Tons.	£
Copper-ore .. .. .	..	..	4	17	1,421½	18,228
Chrome-ore .. .. .	..	..	..	..	5,869	38,002
Antimony-ore .. .. .	..	..	..	..	3,643	52,598
Manganese-ore	16	40	55	165	19,348½	61,881
Hematite-ore .. .. .	..	..	..	..	76½	439
Mixed minerals	*1,297	18,241	†632	8,186	26,206	158,852
Coal (New Zealand) exported	141,641	122,614	122,817	107,062	2,163,848	1,985,267
Coke exported	5	6	15	15	16,390	24,825
Coal, output of mines in colony (less exports)	1,587,895	793,948	1,462,939	781,469	21,252,685	10,534,226
Shale .. .. .	..	..	..	..	14,422	7,211
Kauri-gum	9,154	522,486	10,883	561,444	275,319	13,448,017
Total quantity and value of minerals	1,740,008	1,457,335	1,597,345	1,408,308	23,779,228½	26,324,496
Value of gold and silver, as above .. .. .	..	2,414,476	..	2,214,478	..	70,422,755
Total value of minerals produced, including gold and silver .. .. .	..	3,871,811	..	3,622,786	..	96,747,251

* Including 1,186 tons auriferous ore, 55 tons scheelite-ore; unenumerated, 56 tons.
ton pyrites, 23 tons scheelite-ore; unenumerated, 68 tons.

† Including 535 tons auriferous ore

No. 2.

TABLE showing the QUANTITY and VALUE of GOLD entered for EXPORTATION from NEW ZEALAND for the Years ended the 31st December, 1906 and 1905, and the TOTAL QUANTITY and VALUE from 1857 to the 31st December, 1906.

District and County or Borough.	Year ending 31st December, 1906.		Year ending 31st December, 1905.		Increase or Decrease for Year ending 31st December, 1906.		Total Quantity and Value from January, 1857, to 31st December, 1906.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	Oz.	Oz.	£
County of Coromandel ..	2,195	9,196	5,527	23,291	..	3,832	..	..
County of Thames ..	7,604	31,362	7,333	30,261	271	..	..	..
County of Ohinemuri ..	59,748	212,607	50,079	176,959	9,669	..	..	..
County of Piako ..	456	1,976	550	2,126	..	94	..	..
Borough of Thames ..	61,137	257,543	12,506	52,482	48,631	..	..	..
Great Barrier Island ..	444	1,593	498	1,757	..	54	..	..
Borough of Waikato ..	163,833	681,264	155,721	648,724	8,112	..	..	..
County of Te Aroha ..	..	..	1	2	..	1	..	..
	235,417	1,195,541	232,215	935,602	63,202	..	3,992,338	14,989,849
WELLINGTON ..	..	..	..	..	..	..	183	706
MARLBOROUGH—								
County of Marlborough ..	..	..	..	..	..	..	89,099	347,214
NELSON—								
County of Waimea ..	2,944	11,746	6,469	25,862	..	3,525	..	..
County of Collingwood ..								
County of Takaka ..								
	2,944	11,746	6,469	25,862	..	3,525	1,714,579	6,797,467
WEST COAST—								
County of Buller ..	9,451	36,918	10,778	43,088	..	1,327	..	..
County of Inangahua ..	48,182	188,185	56,964	226,729	..	8,782	..	..
County of Grey ..	29,483	118,483	28,983	116,368	500	..	..	..
County of Westland ..	16,357	65,630	11,328	45,466	5,029	..	..	..
Hokitika Borough ..	81	320	100	401	..	19	..	..
Ross Borough ..	1,189	4,756	1,551	6,206	..	362	..	..
	104,743	414,292	109,704	438,258	..	4,961	5,237,672	20,846,371
CANTERBURY—								
County of Ashburton ..	..	..	..	..	..	..	99	387
OTAGO—								
County of Taieri ..	1,636	6,560	1,866	7,509	..	230	..	..
County of Tuapeka ..	37,229	151,024	39,968	162,101	..	2,739	..	..
County of Vincent ..	40,370	162,550	57,598	232,182	..	17,228	..	..
County of Maniototo ..	7,456	29,996	7,438	29,957	18	..	..	..
County of Waihemo ..	2,188	8,797	2,460	9,933	..	272	..	..
County of Waitaki ..	2,451	9,879	2,222	8,943	229	..	..	..
County of Bruce ..	453	1,799	803	3,220	..	350	..	..
County of Lake ..	12,342	49,574	5,962	24,102	6,880	..	..	..
County of Wallace ..	6,840	27,592	7,486	30,158	..	646	..	..
County of Fiord ..	264	1,056	848	3,393	..	584	..	..
County of Southland ..	49,498	200,452	45,447	182,716	4,051	..	..	..
County of Clutha ..	12	46	..	..	12	..	..	..
	160,739	649,325	172,098	694,214	..	11,359	6,676,288	26,518,670
Unknown ..	..	..	..	..	..	..	207	824
Totals ..	563,843	2,270,904	520,486	2,093,936	43,857	..	17,710,470	69,501,488

No. 3.

GOLD PRODUCED, 1857 TO 1906.

TABLE showing the TOTAL QUANTITY and VALUE of GOLD entered for DUTY for EXPORTATION from the 1st January, 1857, to the 31st December, 1906. (This Return shows the Output of the various Goldfields. Gold entered at Nelson from Hokitika, Greymouth, and Westport is put under the Head of "West Coast," and Gold from Invercargill and Riverton under the Head of "Otago.")

Year.	Auckland.		Nelson.		Marlborough.		West Coast.		Otago.		Wellington.		Canterbury.		Grand Totals.	
	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.
1857	10,437	40,422	..	..	..	..	..	..	..	..	..	..	10,347	40,422
1858	..	1,192	13,226	51,272	..	..	..	..	..	..	..	..	..	..	13,534	52,464
1859	7,386	28,427	..	..	..	..	..	..	..	..	..	..	7,386	28,427
1860	4,538	17,585	..	..	..	..	..	..	..	..	..	..	4,538	17,585
1861	6,385	24,552	..	..	..	..	..	..	..	..	..	..	194,031	751,873
1862	..	4,098	10,422	40,886	..	..	..	..	187,696	727,321	..	..	..	..	410,862	1,591,889
1863	..	13,853	9,580	37,120	..	..	..	..	399,201	1,546,905	..	..	..	..	2,431,723	2,431,723
1864	..	3,448	14,410	55,841	..	..	..	..	614,387	2,380,750	..	..	..	..	628,450	1,856,887
1865	..	5,449	12,137	47,030	..	..	..	..	436,013	1,689,653	..	..	..	..	490,171	1,856,887
1866	..	5,814	7,650	29,643	..	..	..	..	259,139	1,004,163	..	..	..	..	574,574	2,226,474
1867	..	6,637	9,123	35,918	..	..	..	..	168,871	654,647	..	..	..	..	735,376	2,844,517
1868	..	53,660	5,999	38,896	..	..	..	..	158,670	623,815	..	..	..	..	686,905	2,698,862
1869	..	132,451	10,631	42,524	..	..	..	..	171,643	686,696	..	..	..	..	637,474	2,504,326
1870	..	85,534	12,244	48,692	..	..	..	..	153,864	613,456	..	..	..	..	614,281	2,362,995
1871	..	330,896	10,014	40,056	..	..	..	..	165,152	660,694	..	..	..	..	544,880	2,157,685
1872	..	104,890	8,175	32,700	..	..	..	..	154,940	619,760	..	..	..	..	730,029	2,787,520
1873	..	119,449	13,697	54,786	..	..	..	..	157,574	630,696	..	..	..	..	445,870	1,731,261
1874	..	76,910	5,643	22,158	..	..	..	..	182,416	734,024	..	..	..	..	506,387	1,987,425
1875	..	69,485	4,577	17,866	..	..	..	..	135,107	542,154	..	..	..	..	376,388	1,505,831
1876	..	56,057	14,018	55,862	..	..	..	..	121,423	487,632	..	..	..	..	355,922	1,407,770
1877	..	99,081	5,367	21,092	..	..	..	..	118,477	473,491	..	..	..	..	322,016	1,284,328
1878	..	55,982	220,454	17,233	..	..	..	..	113,169	455,341	..	..	..	..	371,685	1,496,080
1879	..	37,901	184,236	3,222	..	..	..	..	105,003	422,277	..	..	..	..	310,486	1,240,079
1880	..	42,720	3,222	12,223	..	..	..	..	102,869	407,868	..	..	..	..	287,464	1,148,108
1881	..	35,516	141,326	13,039	..	..	..	..	113,665	457,705	..	..	..	..	305,248	1,227,252
1882	..	38,039	131,007	12,494	..	..	..	..	102,670	411,923	..	..	..	..	270,561	1,080,790
1883	..	41,291	163,618	7,724	..	..	..	..	88,446	383,804	..	..	..	..	251,204	1,002,730
1884	..	36,087	143,564	8,002	..	..	..	..	87,478	352,394	..	..	..	..	248,374	993,352
1885	..	42,989	170,416	9,377	..	..	..	..	78,810	318,932	..	..	..	..	239,946	921,797
1886	..	32,371	138,140	2,582	..	..	..	..	78,183	294,378	..	..	..	..	237,871	948,615
1887	..	30,697	121,554	2,914	..	..	..	..	79,104	317,543	..	..	..	..	237,079	908,569
1888	..	35,223	189,556	3,027	..	..	..	..	70,443	279,618	..	..	..	..	203,869	811,100
1889	..	28,665	113,191	3,252	..	..	..	..	62,107	247,142	..	..	..	..	201,219	801,066
1890	..	31,745	125,760	2,856	..	..	..	..	64,419	256,430	..	..	..	..	203,311	806,549
1891	..	45,392	181,185	4,445	..	..	..	..	87,203	325,976	..	..	..	..	193,193	773,488
1892	..	45,555	188,655	2,535	..	..	..	..	87,203	325,976	..	..	..	..	251,996	1,007,488
1893	..	46,714	186,553	2,145	..	..	..	..	82,933	338,467	..	..	..	..	238,079	954,744
1894	..	52,916	211,974	2,860	..	..	..	..	77,660	313,288	..	..	..	..	226,811	913,188
1895	..	111,213	480,862	2,460	..	..	..	..	76,359	307,644	..	..	..	..	231,615	887,839
1906	9,016	..	..	..	..	87,694	355,796	..	..	..	..	238,491	1,162,164

No. 2.

TABLE showing the QUANTITY and VALUE of GOLD entered for EXPORTATION from NEW ZEALAND for the Years ended the 31st December, 1906 and 1905, and the TOTAL QUANTITY and VALUE from 1857 to the 31st December, 1906.

District and County or Borough.	Year ending 31st December, 1906.		Year ending 31st December, 1905.		Increase or Decrease for Year ending 31st December, 1906.		Total Quantity and Value from January, 1857, to 31st December, 1906.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.		
AUCKLAND—	Oz.	£	Oz.	£	Oz.	Oz.	Oz.	£
County of Coromandel ..	2,195	9,196	5,527	23,291	..	3,332	..	..
County of Thames ..	7,604	31,362	7,333	30,261	271	..	..	..
County of Ohinemuri ..	59,748	212,607	50,079	176,959	9,669	..	..	..
County of Piako ..	456	1,976	550	2,126	..	94	..	..
Borough of Thames ..	61,137	257,543	12,506	52,482	48,631	..	..	..
Great Barrier Island ..	444	1,593	498	1,757	..	54	..	..
Borough of Waikato ..	163,833	681,264	155,721	648,724	8,112	..	..	..
County of Te Aroha ..	..	..	1	2	..	1	..	..
	295,417	1,195,541	232,215	935,602	63,202	..	2,962,338	14,989,849
WELLINGTON ..	..	..	..	..	..	..	188	706
MARLBOROUGH—								
County of Marlborough ..	..	..	..	..	..	..	89,099	247,214
NELSON—								
County of Waimea ..	2,944	11,746	6,469	25,862	..	3,525	..	..
County of Collingwood ..								
County of Takaka ..								
	2,944	11,746	6,469	25,862	..	3,525	1,714,579	6,797,467
WEST COAST—								
County of Buller ..	9,451	36,918	10,778	43,088	..	1,327	..	..
County of Inangahua ..	48,182	188,185	56,964	226,729	..	8,782	..	..
County of Grey ..	29,483	118,483	28,983	116,368	500	..	..	..
County of Westland ..	16,357	65,630	11,328	45,466	5,029	..	..	..
Hokitika Borough ..	81	320	100	401	..	19	..	..
Ross Borough ..	1,189	4,756	1,551	6,206	..	362	..	..
	104,743	414,292	109,704	438,258	..	4,961	5,237,672	20,846,371
CANTERBURY—								
County of Ashburton ..	..	..	..	..	..	..	99	387
OTAGO—								
County of Taieri ..	1,636	6,560	1,966	7,509	..	230	..	..
County of Tuapeka ..	37,229	151,024	39,968	162,101	..	2,739	..	..
County of Vincent ..	40,370	162,550	57,598	232,182	..	17,228	..	..
County of Maniototo ..	7,456	29,996	7,438	29,957	18	..	..	..
County of Waihemo ..	2,188	8,797	2,460	9,933	..	272	..	..
County of Waitaki ..	2,451	9,879	2,222	8,943	229	..	..	..
County of Bruce ..	453	1,799	803	3,220	..	350	..	..
County of Lake ..	12,342	49,574	5,962	24,102	6,380	..	..	..
County of Wallace ..	6,840	27,592	7,486	30,158	..	646	..	..
County of Fiord ..	264	1,056	848	3,393	..	584	..	..
County of Southland ..	49,498	200,452	45,447	182,716	4,051	..	..	..
County of Clutha ..	12	46	..	..	12	..	..	..
	160,739	640,325	172,098	694,214	..	11,359	6,676,288	26,518,670
Unknown ..	..	..	..	..	..	..	207	834
Totals ..	563,843	2,270,904	520,486	2,093,936	43,357	..	17,710,470	69,501,488

No. 3.
GOLD PRODUCED, 1857 TO 1906.

TABLE showing the TOTAL QUANTITY and VALUE of GOLD entered for DUTY for EXPORTATION from the 1st January, 1857, to the 31st December, 1906. (This Return shows the Output of the various Goldfields. Gold entered at Nelson from Hokitika, Greymouth, and Westport is put under the Head of "West Coast," and Gold from Invercargill and Riverton under the Head of "Otago.")

Year.	Auckland.		Nelson.		Marlborough.		West Coast.		Otago.		Wellington.		Canterbury.		Grand Totals.	
	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.
1857	..	£	10,437	40,423	..	£	..	£	..	£	..	£	..	£	10,347	40,422
1858	..	1,192	13,226	51,272	..	..	..	..	..	..	..	..	..	..	13,534	52,464
1859	..	..	7,336	28,427	..	..	..	..	..	..	..	..	..	..	7,336	28,427
1860	..	..	4,538	17,565	..	..	..	..	..	..	..	..	..	..	4,538	17,565
1861	..	..	6,335	24,552	..	..	..	..	..	..	..	..	..	..	194,031	751,873
1862	1,239	4,098	10,422	40,386	..	..	..	..	..	..	..	..	..	..	410,862	1,591,889
1863	4,468	13,853	9,580	37,120	..	..	..	..	..	..	..	..	..	..	628,450	2,431,723
1864	8,448	10,552	14,410	55,941	..	..	..	..	..	..	..	..	..	..	490,171	1,856,837
1865	5,449	17,046	12,137	47,030	..	..	..	..	..	..	..	..	..	..	574,574	2,236,474
1866	5,814	17,468	7,650	29,643	..	..	..	..	..	..	..	..	..	..	735,376	2,844,517
1867	6,637	18,277	9,123	35,918	..	..	..	..	..	..	..	..	..	..	686,905	2,598,862
1868	53,660	168,874	5,999	38,396	404	1,616	405,763	1,608,844	171,649	686,596	..	..	..	..	637,474	2,504,926
1869	132,451	434,687	10,631	42,324	666	2,664	317,169	1,269,664	153,364	613,456	..	..	..	..	614,281	2,362,995
1870	85,594	319,146	12,244	48,692	1,862	7,408	230,068	1,121,525	165,152	680,694	..	..	..	..	544,880	2,167,585
1871	330,326	1,188,708	10,014	40,056	1,867	7,468	282,882	931,528	154,940	619,760	30	120	..	..	730,029	2,787,520
1872	104,890	369,341	8,175	32,700	2,057	8,228	172,574	690,298	157,574	630,696	..	..	..	..	445,870	1,781,261
1873	119,449	437,123	13,697	54,786	1,274	5,050	188,501	756,442	182,416	734,034	..	..	..	..	505,387	1,987,425
1874	76,910	306,068	5,643	22,158	1,198	4,748	157,531	631,203	135,107	542,154	..	..	..	..	376,388	1,506,331
1875	69,485	262,156	4,577	17,866	1,159	4,636	158,678	635,480	121,423	487,632	..	..	..	..	355,322	1,407,770
1876	56,067	231,905	14,018	55,862	450	1,796	133,014	531,374	118,477	475,491	..	..	..	..	322,016	1,284,328
1877	99,081	403,627	5,367	21,092	870	3,197	153,198	612,823	113,169	455,341	..	..	..	..	371,685	1,496,080
1878	55,983	220,454	4,463	17,323	404	1,617	144,634	578,508	105,003	422,377	..	..	..	..	310,486	1,240,079
1879	37,901	154,295	2,998	11,424	879	3,460	142,822	571,061	102,869	407,868	..	..	..	..	287,464	1,148,108
1880	35,516	141,326	3,222	12,223	1,530	5,650	144,090	575,268	113,666	457,705	..	..	..	..	306,248	1,237,252
1881	33,059	131,007	3,289	12,494	1,378	5,531	137,544	509,971	102,670	411,923	..	..	..	..	270,561	1,080,790
1882	41,291	163,618	2,064	7,794	1,352	5,400	130,048	519,978	88,446	333,804	10	37	..	..	251,204	1,002,720
1883	36,087	143,564	2,159	8,002	636	2,524	116,906	467,152	87,478	352,394	..	..	..	..	248,374	998,352
1884	43,989	170,416	2,798	10,397	1,079	4,306	111,686	446,517	78,810	318,932	..	..	..	..	233,946	921,797
1885	32,271	128,140	2,582	9,979	540	2,160	117,861	471,825	73,183	324,378	..	..	..	..	237,871	948,615
1886	30,697	121,564	2,914	10,829	404	1,451	112,671	446,287	79,104	317,543	..	..	..	..	203,869	908,569
1887	35,248	139,556	3,027	11,320	1,041	3,759	98,774	395,430	70,443	279,518	..	..	..	..	203,819	801,066
1888	28,655	113,191	3,252	12,310	699	2,547	100,189	400,405	62,107	247,143	..	..	..	..	208,211	808,549
1889	31,745	125,760	2,856	11,049	5,189	20,167	101,686	406,451	64,419	256,430	..	..	..	..	193,193	773,488
1890	46,392	181,185	4,445	16,896	6,073	24,285	89,096	356,366	63,423	265,976	..	..	..	..	251,996	1,007,488
1891	45,555	183,635	2,535	9,604	5,649	22,576	103,268	397,126	87,209	349,573	..	..	..	..	238,079	954,744
1892	45,714	186,553	2,145	8,187	3,898	15,429	103,106	412,383	82,933	338,467	..	..	..	..	236,811	913,188
1893	52,916	211,974	2,860	10,634	2,155	8,644	99,127	396,516	77,660	313,238	..	..	..	..	231,615	887,839
1894	..	..	2,460	9,016	2,695	10,771	89,429	357,719	87,694	353,796	..	..	..	..	233,491	1,162,164
1895	111,213	430,863	2,460	9,016	2,695	10,771	89,429	357,719	87,694	353,796	..	..	..	..	233,491	1,162,164

No. 3—continued.

GOLD PRODUCED, 1857 to 1906—continued

TABLE showing the TOTAL QUANTITY and VALUE of GOLD entered for EXPORTATION from the 1st January, 1857, to the 31st December, 1906. (This Return shows the Output of the various Goldfields. Gold entered at Nelson from Hokitika, Greymouth, and Westport is put under the Head of "West Coast," and Gold from Invercargill and Riverton under the Head of "Otago")—continued.

Year.	Auckland.		Nelson.		Marlborough.		West Coast.		Otago.		Wellington.		Canterbury.		Grand Totals.	
	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.	Oz.	Value.
1856	..	92,346	350,355	£	2,753	10,333	916	3,538	79,317	317,161	88,362	359,991	..	..	263,694	1,041,428
1857	..	105,477	392,337	£	1,892	7,055	910	3,195	58,817	235,490	84,649	342,187	..	..	251,645	980,204
1858	..	142,333	527,786	£	1,720	6,892	781	3,008	79,948	319,789	55,343	293,291	..	..	280,175	1,080,691
1859	..	168,769	624,737	£	419	1,571	..	..	90,031	360,149	130,311	526,605	..	..	389,558	1,513,173
1860	..	166,343	605,398	£	3,718	14,605	585	2,147	73,928	295,733	129,075	521,629	..	..	378,616	1,439,602
1861	..	191,968	696,551	£	7,212	28,138	133	513	113,286	454,006	142,940	575,492	..	..	455,661	1,753,783
1862	..	201,583	721,977	£	5,947	23,649	601	2,404	118,796	475,272	181,116	738,124	..	..	508,045	1,951,438
1863	..	232,681	832,334	£	7,962	31,710	972	3,845	125,941	501,090	166,458	668,552	..	..	538,314	2,037,881
1864	..	223,010	791,529	£	5,049	20,141	473	1,890	122,310	489,177	169,478	694,764	..	..	530,330	1,987,501
1865	..	232,215	835,602	£	6,469	25,362	..	..	109,704	438,258	172,098	694,314	..	..	530,486	2,038,986
1866	..	235,417	1,195,541	£	2,944	11,746	..	..	104,743	414,292	160,799	649,325	..	..	563,843	2,270,904
Totals ..	8,992,338	14,989,849	1,166,310	£	295,160	1,166,310	88,945	346,637	6,557,245	26,478,105	6,676,396	26,519,060	123	483	17,710,470	69,501,486

NOTE.—In 1871 and 1872 the gold duty was 1s. to 2s. 6d. per ounce; in 1873 and succeeding years the duty was 2s. per 20-carat, and in like proportion for gold of less value. From the 31st March, 1891, the gold duty was abolished in the South Island.

No. 4.

TABLE showing the TOTAL QUANTITY and VALUE of MINERAL ORES other than GOLD (the Product of New Zealand Mines), COAL, COKE, and KAURI-GUM, exported from the Colony up to the 31st December, 1906.

Year.	Silver.		Copper-ore.		Chromite-ore.		Antimony-ore.		Manganese-ore.		Hematite-ore.		Mixed Mineral Ores.*		Coal†		Coke.		Kauri-gum.		Totals.	
	Oz.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
1853	..	£	..	£	..	£	..	£	..	£	..	£	..	£	..	£	..	£	830	15,972	830	15,972
1854	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,661	28,864	1,661	28,864
1855	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	355	4,514	355	4,514
1856	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,440	18,591	1,440	18,591
1857	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,522	36,251	2,522	36,251
1858	..	..	351	5,000	..	25	..	..	..	..	..	..	..	..	..	..	..	..	1,811	20,037	1,811	20,037
1859	..	..	245	2,605	8	120	..	..	..	..	..	..	..	..	..	..	..	..	2,010	20,776	2,010	20,776
1860	..	..	187	1,590	116	1,440	..	..	..	..	..	..	..	..	..	..	..	..	1,046	9,851	1,046	9,851
1861	..	..	110	1,300	52	590	..	..	..	..	..	..	..	..	..	..	..	..	856	9,888	856	9,888
1862	..	..	51	1,024	8,843	24,719	..	..	..	..	..	..	..	..	..	..	..	..	1,108	11,107	1,108	11,107
1863	..	..	..	..	586	4,318	..	..	..	..	..	..	..	..	..	..	..	..	1,400	27,026	1,400	27,026
1864	..	..	..	..	768	4,910	..	..	..	..	..	..	..	..	..	..	..	..	2,228	60,590	2,228	60,590
1865	..	..	..	..	281	1,815	..	..	..	..	..	..	..	..	..	..	..	..	1,867	46,060	1,867	46,060
1866	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,535	70,572	2,535	70,572
1867	..	..	246	2,700	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,685	77,491	2,685	77,491
1868	..	..	84	977	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,690	72,493	2,690	72,493
1869	..	2,988	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,850	111,907	2,850	111,907
1870	37,123	11,380	7	190	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,391	175,074	4,391	175,074
1871	80,272	28,145	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,054	167,958	5,054	167,958
1872	37,064	9,910	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,811	154,167	4,811	154,167
1873	36,187	9,860	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,884	85,816	2,884	85,816
1874	40,566	10,880	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,569	79,986	2,569	79,986
1875	29,085	7,569	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,231	138,523	3,231	138,523
1876	12,888	8,171	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,888	109,284	2,888	109,284
1877	38,898	7,566	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,633	118,348	3,633	118,348
1878	23,019	5,755	6	115	..	..	..	..	..	..	..	..	..	..	..	..	..	..	177	132,975	177	132,975
1879	20,645	4,512	55	1,105	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,445	147,585	3,445	147,585
1880	30,006	4,500	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,735	242,817	4,735	242,817
1881	18,885	4,236	6	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,353	253,778	3,353	253,778
1882	5,694	1,286	9	41	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,461	260,869	5,461	260,869
1883	16,826	3,785	46	678	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,057	386,606	2,057	386,606
1884	24,914	5,125	90	106	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,729	394,151	3,729	394,151
1885	16,624	8,169	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,855	299,762	3,855	299,762
1886	12,108	2,946	20	390	..	..	..	..	..	..	..	..	..	..	..	..	..	..	715	257,653	715	257,653
1887	20,809	8,453	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,666	362,449	2,666	362,449
1888	408	71	2	75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,646	380,933	1,646	380,933
1889	24,105	4,043	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,407	329,590	3,407	329,590
1890	32,637	6,163	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,519	329,590	7,519	329,590
1891	28,038	5,151	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,894	378,563	3,894	378,563
1892	22,053	3,956	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,658	437,056	5,658	437,056
																			5,691	517,678	5,691	517,678
																			8,705	614,980	8,705	614,980

No. 4—continued.

TABLE showing the TOTAL QUANTITY and VALUE of MINERAL ORES other than GOLD (the Product of New Zealand Mines), COAL, COKE, and KAURI-GUM exported from the Colony up to the 31st December, 1906—continued.

Year.	Silver.		Copper-ore.		Chrome-ore.		Antimony-ore.		Manganese-ore.		Hematite-ore.		Mixed Mineral Ores.		Coal.		Coke.		Kauri-gum.		Total.		
	Oz.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	
1893	63,076	9,743	..	..	..	331	3,467	319	943	..	..	37	650	69,136	72,699	51	58	8,317	510,775	68,076	78,191	598,380
1894	54,177	6,697	..	..	..	44	761	534	1,156	..	..	25	353	75,004	73,438	107	160	8,338	404,567	54,177	84,052	487,192
1895	85,024	10,679	..	..	..	54	1,486	210	525	..	..	62	880	85,987	83,342	288	715	7,425	418,766	85,024	94,026	516,393
1896	94,307	10,599	..	..	..	21	450	65	205	..	..	37	1,335	79,524	71,984	105	263	7,126	431,823	94,307	86,878	516,149
1897	183,892	20,872	..	..	..	10	157	180	541	..	..	1,561	5,892	76,073	69,595	..	..	6,641	398,010	183,892	84,465	495,069
1898	293,851	33,107	2½	70	..	..	..	217	703	..	..	*1,828	*4,792	56,332	50,981	9	14	9,905	586,767	293,751	68,253	675,834
1899	349,338	40,838	..	..	..	..	..	135	407	..	..	†1,909	†6,591	89,480	83,085	18	9	11,116	607,919	349,338	102,058	788,849
1900	326,457	38,879	12	45	..	3	101	166	588	..	..	‡2,126	‡12,751	112,707	98,136	..	..	10,159	622,293	326,457	125,201	772,908
1901	571,134	65,258	3	105	..	30	136	208	614	..	..	§696	§7,775	159,643	142,176	..	..	7,541	446,114	571,134	168,121	662,178
1902	674,196	71,975	17	116	||415	||4,422	188,677	154,747	7,430	450,223	674,196	196,714	682,008
1903	911,914	91,497	..	..	..	..	..	70	210	..	..	¶625	¶7,014	152,332	138,927	..	..	9,357	631,102	911,914	162,390	658,874
1904	1,094,461	112,875	..	..	..	..	..	196	570	7	96	**1,404	**10,168	165,230	139,898	..	..	9,203	501,817	1,094,461	176,080	765,424
1905	1,179,744	120,542	4	17	..	..	..	55	165	..	..	††632	††8,186	122,817	107,062	15	15	10,888	561,444	1,179,744	134,406	797,381
1906	1,890,536	143,672	..	..	..	..	..	16	40	..	..	††1,297	††18,421	141,641	122,614	5	6	9,154	522,486	1,890,536	152,113	807,139
Totals	7,876,798	921,267	1,421½	18,298	5,869	38,002	3,643	52,598	19,348½	61,881	76½	439	§§26,206	§§158,852	2,163,848	1,985,267	16,390	24	825	275,319	13,443,017	7,876,798	16,704,326

* Including 1,765 tons of sulphur, value £4,097. † Including 1,227 tons of sulphur, value £3,433, and 7 oz. of platinum, value £23. ‡ Including 219 tons quartz, value £4,450; 54 tons scheelite-ore, value £2,635; 131 tons silver-ore, value £559; 1,692 tons sulphur, value £4,824. § Including 390 tons quartz, value £6,663; 15 tons fireclay, value £39; 2 tons scheelite-ore, value £83; 143 tons sulphur, value £360. || Including 231 tons auriferous ore, value £2,560; 39 tons scheelite-ore, value £1,200; 1 ton silver-ore, value £1; 100 tons sulphur, value £475; unenumerated, 44 tons, value £186.

¶ Including 472 tons auriferous ore, value £4,449; 21 tons lead-ore, value £170; 42 tons scheelite-ore, value £1,439; 2 tons tin-ore, value £180; unenumerated, 88 tons, value £776. ** Including 977 tons auriferous ore, value £8,868; 100 tons ironsand, value £59; 17 tons scheelite-ore, value £791; unenumerated, 310 tons, value £420. †† Including 535 tons auriferous ore, value £5,997; ironsand, value £4; 1 ton pyrites, value £40; 28 tons scheelite-ore, value £1,848; unenumerated, 68 tons, value £247. ‡‡ Including 1,186 tons auriferous ore, value £13,940; 55 tons scheelite-ore, value £3,407; unenumerated, 56 tons, value £1,074. §§ Silver-ore, 178½ tons, value £2,057.

No. 5.

RETURN showing the QUANTITY and VALUE of COALS IMPORTED into NEW ZEALAND during the Quarter ended the 31st March, 1907.

Country whence imported.						Quantity.	Value.
						Tons.	£
New South Wales	..	..	..	..	..	51,738	49,531
United Kingdom	..	..	..	..	..	18	41
Totals						51,756	49,572

No. 6.

TABLE showing the INCREASE or DECREASE in the ANNUAL PRODUCTION of COAL and SHALE in the Colony, and the QUANTITY of COAL IMPORTED since 1878.

Year.	Coal raised in the Colony.		Coal imported.		
	Tons.	Yearly Increase or Decrease.	Tons.	Increase over Preceding Year.	Decrease over Preceding Year.
Prior to 1878	709,931	..	..	..	..
1878	162,218	..	174,148	..	..
1879	231,218	69,000	158,076	..	16,072
1880	299,923	68,705	123,298	..	33,778
1881	337,262	37,339	129,962	6,664	..
1882	378,272	41,010	129,582	..	380
1883	421,764	43,492	123,540	..	6,042
1884	480,831	59,069	148,444	24,904	..
1885	511,063	30,232	130,202	..	18,242
1886	534,353	23,290	119,873	..	10,329
1887	558,620	24,267	107,230	..	12,643
1888	613,895	55,275	101,341	..	5,889
1889	586,445	dec. 27,450	128,068	26,722	..
1890	637,897	50,952	110,939	..	17,124
1891	668,794	31,397	125,318	14,379	..
1892	673,315	4,521	125,458	185	..
1893	691,548	18,233	117,444	..	8,009
1894	719,546	27,998	112,961	..	4,483
1895	726,654	7,108	108,198	..	4,763
1896	792,851	66,197	101,756	..	6,442
1897	840,713	47,862	110,907	9,151	..
1898	907,033	66,320	115,427	4,520	..
1899	975,234	68,201	99,655	..	15,772
1900	1,093,990	118,756	124,033	24,378	..
1901	1,239,686	145,696	149,764	25,371	..
1902	1,365,040	125,354	127,853	..	21,911
1903	1,420,229	55,189	163,923	36,070	..
1904	1,537,838	117,609	147,196	..	16,727
1905	1,585,756	47,918	169,046	21,850	..
1906	1,729,536	143,780	207,567	38,521	..
Totals	23,430,955	..	3,791,199	..	..

No. 7.

TABLE showing the OUTPUT of COAL from the various Mining Districts, and the Comparative INCREASE and DECREASE, for the Years 1905 and 1906, together with the TOTAL APPROXIMATE QUANTITY of COAL produced since the Mines were opened.

Name of District.	Output of Coal.		Increase.	Decrease.	Approximate Total Output of Coal up to 31st December, 1906.
	1905.	1906.			
	Tons.	Tons.	Tons.	Tons.	Tons.
Kawakawa and Hikurangi ..	94,858	99,695	4,837	..	1,595,909
Whangarei, Kamo, Ngunguru, and Whauwhau	19,591	21,005	1,414	..	597,176
Waikato ..	125,317	155,719	30,402	..	1,836,063
Mokau ..	3,753	4,244	491	..	52,211
Miranda ..	16,357	20,523	4,166	..	62,715
Pelorus ..	..	..	..	..	711
West Wanganui ..	20,778	20,155	..	623	109,648
Westport ..	551,825	608,269	56,444	..	7,011,685
Reefton ..	7,872	13,651	5,779	..	145,831
Greymouth ..	275,752	320,840	45,088	..	4,334,043
Canterbury ..	25,638	26,553	915	..	531,424
Otago ..	317,731	302,981	..	14,750	5,919,924
Southland ..	126,284	135,901	9,617	..	1,234,615
Totals	1,585,756	1,729,536	143,780	..	23,430,955

No. 8.

TABLE showing the DIFFERENT CLASSES of COAL from the MINES in the COLONY.

Name of Coal.	Output of Coal.		Increase.	Approximate Total Output of Coal up to the 31st December, 1906.
	1905.	1906.		
	Tons.	Tons.	Tons.	Tons.
Bituminous and semi-bituminous ..	965,083	1,077,408	112,325	13,407,723
Pitch	23,072	24,961	1,889	1,931,611
Brown	496,936	521,003	24,067	7,094,882
Lignite	100,665	106,164	5,499	982,317
Shale.. .. .	..	..	..	14,422
Totals	1,585,756	1,729,536	143,780	23,430,955

No. 9.

TABLE showing the NUMBER of COAL-MINES in OPERATION, the NUMBER of MEN EMPLOYED, and the OUTPUT of COAL per MAN.

Number of Mines working.	Number of Men employed at each Mine.	Total Number of Men employed.	Output of Coal during 1906.	Average Output per Man.
			Tons.	Tons.
91	1 to 4 in each	166	56,554	..
34	5 to 10 "	220	99,248	..
9	11 to 20 "	133	53,045	..
16	21 and upwards	3,173	1,520,689	..
150		3,692	1,729,536	469

No. 10.

RETURN showing the QUANTITY and VALUE of COAL IMPORTED INTO and EXPORTED FROM NEW ZEALAND during the Year ended the 31st December, 1906.

Imported.			Exported.		
Countries whence imported.	Quantity.	Value.	Countries to which exported.	Quantity.	Value.
	Tons.	£		Tons.	£
United Kingdom	57	142	United Kingdom	80,013	78,328
New South Wales	206,939	194,612	Victoria	3,710	2,520
Victoria	3	10	New South Wales	25,131	19,833
Queensland	568	377	South Australia .. ..	..	..
			Western Australia	2,405	1,563
			Tasmania	4,870	3,050
			Fiji	9,613	5,659
			Bengal	200	200
			Singapore	3,503	3,240
			British Columbia.. ..	2,966	2,035
			U.S.A.—East Coast	211	211
			West Coast	835	1,146
			Chili	960	980
			South Seas	7,684	4,282
Totals	207,587	195,141	Totals	142,101	123,097

No II.

NUMBER of PERSONS ORDINARILY EMPLOYED during the Years ended 31st December,
1905 and 1906.

District.	Alluvial Miners.		Quartz-miners.		Totals.		Grand Totals.	
	European.	Chinese.	European.	Chinese.	European.	Chinese.	1905.	1906.
GOLD-MINES.								
AUCKLAND—								
Coromandel .. .. .	..	..	180	..	180	..	150	180
Thames .. .. .	..	..	454	..	454	..	368	454
Paeroa .. .. .	..	..	601	..	601	..	506	601
Te Aroha .. .. .	..	..	20	..	20	..	20	20
Tauranga .. .. .	..	..	1	..	1	..	1	1
Waikato .. .. .	..	..	1,500	..	1,500	..	1,544	1,500
MARLBOROUGH—								
Havelock .. .. .	..	..	2,706	..	2,706	..	2,584	2,706
Blenheim	7	..	8	..	15	..	14	15
NELSON—								
Wangapeka and Sherry ..	10	..	..	..	10	..	6	10
Takaka	21	..	..	..	21	..	19	21
Collingwood	41	..	89	..	80	..	90	80
Motueka .. .. .	..	..	..	..	..	..	3	..
Inangahua	200	80	700	..	900	80	1,000	980
Ahaura	300	50	50	..	350	50	400	400
Charleston	89	..	..	..	89	..	89	89
Westport, including Addison's, Northern Terraces, Waimanga- roa, North Beach, Mokihinui, Karamea, and Lower Buller Valley	150	..	10	..	160	..	160	160
Lytell	53	..	4	..	57	..	78	57
Murchison	65	18	..	..	65	18	120	78
Owen .. .. .	..	..	..	..	..	..	..	..
WESTLAND—								
Ross	46	1	2	..	48	1	68	49
Stafford and Goldsborough ..	200	30	..	..	200	30	240	230
Hokitika and Kanieri	200	40	15	..	215	40	254	255
Kumara	51	22	..	..	51	22	129	78
Greymouth	740	190	..	..	740	190	958	980
Arnold .. .. .	..	..	..	..	..	..	..	..
Okarito	32	..	..	..	32	..	88	82
OTAGO—								
Hindon	20	1	21	..	41	1	42	42
Tuapeka	280	60	12	..	292	60	392	352
Clyde, Roxburgh, Black's, and Alexandra	525	35	8	..	528	35	717	568
Cromwell	280	20	6	..	286	20	326	306
Tapau	8	..	..	..	8	..	8	8
Waikaka	275	25	..	..	275	25	290	300
Wyndham	10	..	..	..	10	..	..	10
Waiau, Orepuki and Preservation Roundhill,	280	34	2	..	282	34	280	316
Wakatipu Goldfields—Arrow, Macetown, Cardrona, Kawarau, Braeken's, and Motatapu ..	50	25	19	..	69	25	92	94
Queenstown	181	9	30	..	161	9	159	170
Naseby .. .. .	..	..	..	..	..	..	..	..
St. Bathans	195	79	47	1	242	80	388	322
Hyde .. .. .	..	..	..	..	..	..	..	..
Macrae's .. .. .	..	..	..	..	..	..	..	..
Maerewhenua and Kurow ..	48	..	..	..	48	..	..	48
Gore	340	8	..	..	340	8	350	343
GOLD-MINES. SUMMARY.								
AUCKLAND, NORTHERN INSPECTION DISTRICT .. .. .	..	..	..	..	..	..	2,584	2,706
MARLBOROUGH } WEST COAST NELSON .. } INSPECTION DIS- WESTLAND .. } TRICT .. .. .	..	..	..	..	..	..	79	15
OTAGO .. } SOUTHERN INSPECTION DISTRICT .. .. .	..	..	..	..	..	..	1,965	1,875
Totals .. .. .	..	..	..	..	..	..	1,682	1,569
GOLD-MINES. SUMMARY.								
AUCKLAND, NORTHERN INSPECTION DISTRICT	2,584	2,706
MARLBOROUGH } WEST COAST NELSON .. } INSPECTION DIS- WESTLAND .. } TRICT	79	15
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MARLBOROUGH } WEST COAST NELSON .. } INSPECTION DIS- WESTLAND .. } TRICT	79	15
OTAGO .. } SOUTHERN INSPECTION DISTRICT	1,965	1,875
Totals .. .. .	..	..	..	..	..	..	1,682	1,569

No. 11—continued.

NUMBER of PERSONS ORDINARILY EMPLOYED during the Years ended 31st December,
1905 and 1906—continued.

District.	Alluvial Miners.		Quartz-miners.		Totals.		Grand Totals.	
	European.	Chinese.	European.	Chinese.	European.	Chinese.	1905.	1906.
OTHER METALLIFEROUS MINES.								
NORTHERN INSPECTION DISTRICT	23
WEST COAST	77
SOUTHERN	65
Totals	165
COAL-MINES.								
NORTHERN INSPECTION DISTRICT	517	517
WEST COAST	1,501	2,044
SOUTHERN	1,251	1,131
Totals	3,269	3,692
Total Number of Persons ordinarily employed	12,896

Approximate Cost of Paper.—Preparation, not given; printing (2,400 copies), \$16 12s.

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Price 6d.]

DIAGRAM showing TOTAL QUANTITY & VALUE of GOLD exported from N.Z.
for the years 1857 to 1906.

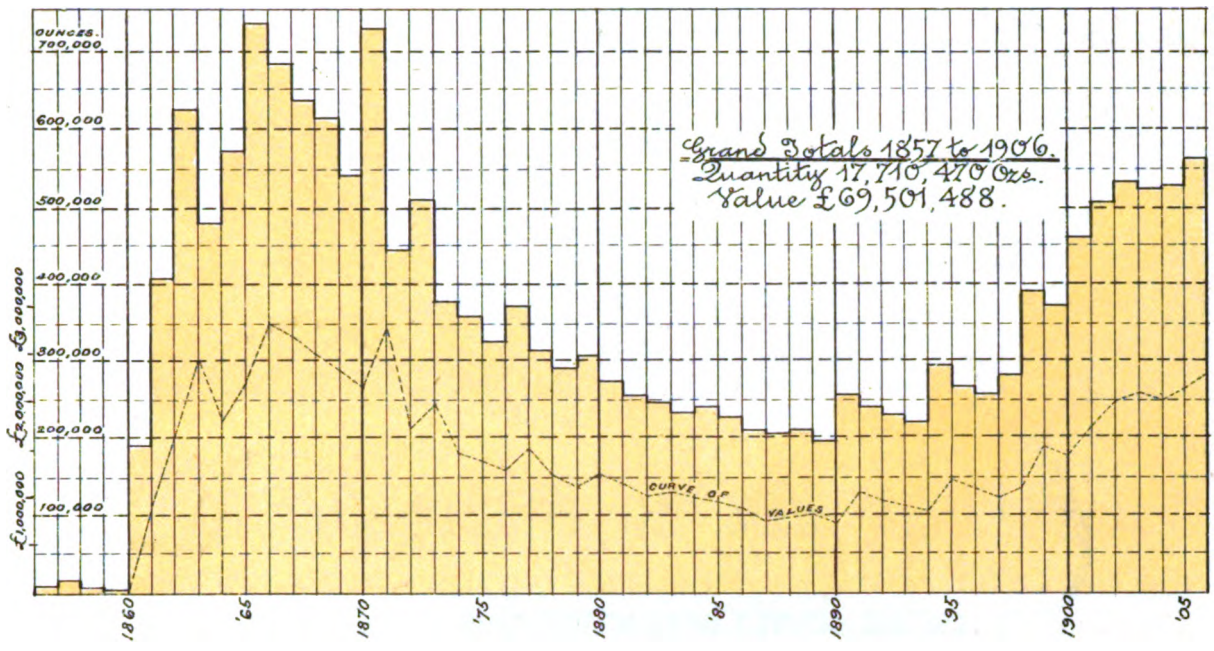


DIAGRAM showing TOTAL QUANTITY & VALUE of KAURI GUM exported from N.Z.
for the years 1853 to 1906.

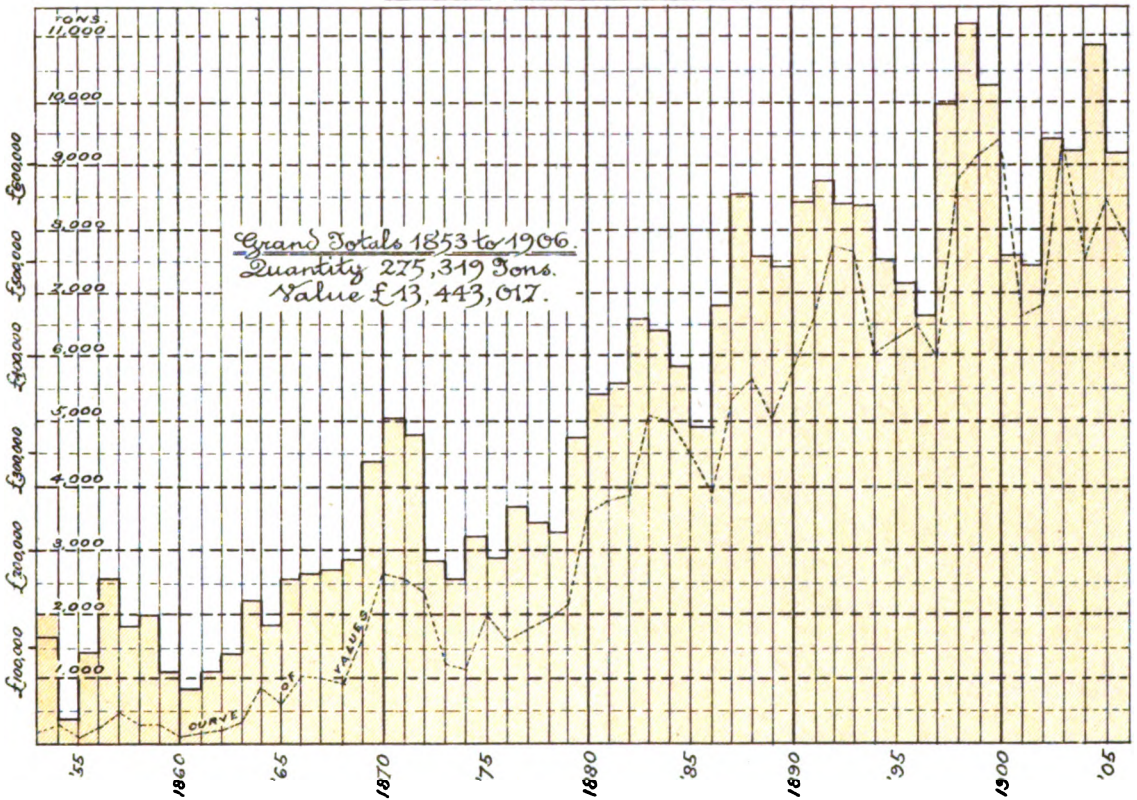
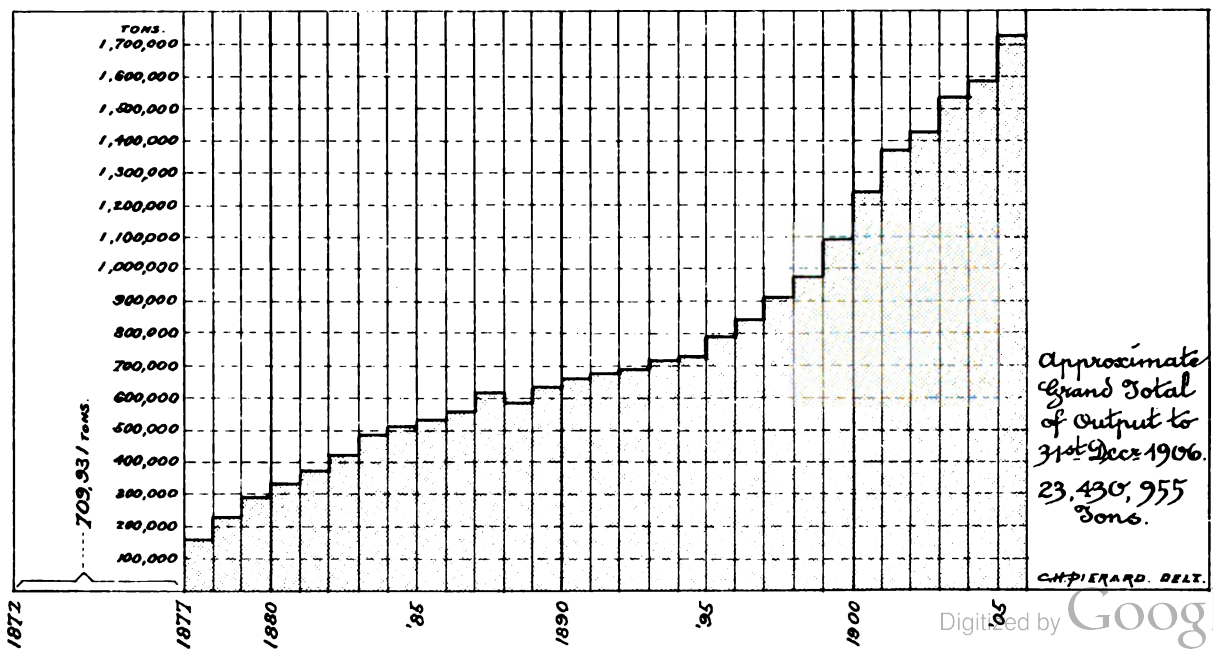


DIAGRAM showing TOTAL OUTPUT of COAL from N.Z. MINES.
for the years 1872 to 1906.





1907.
NEW ZEALAND.

THE GOLDFIELDS OF NEW ZEALAND:
REPORT ON MINES, ROADS, WATER-RACES, AND OTHER WORKS
IN CONNECTION WITH METALLIFEROUS MINING.

Presented to both Houses of the General Assembly by Command of His Excellency.

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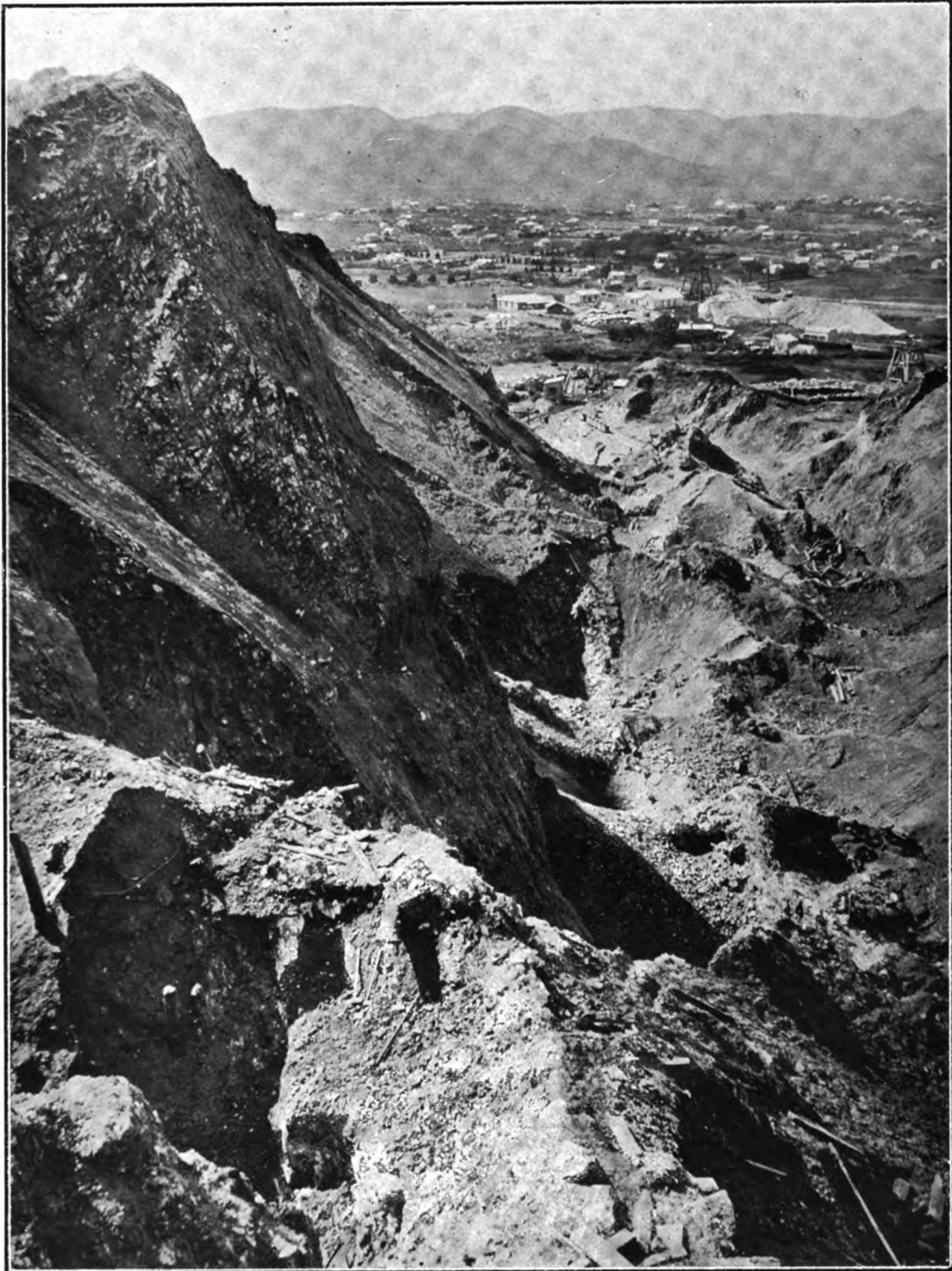
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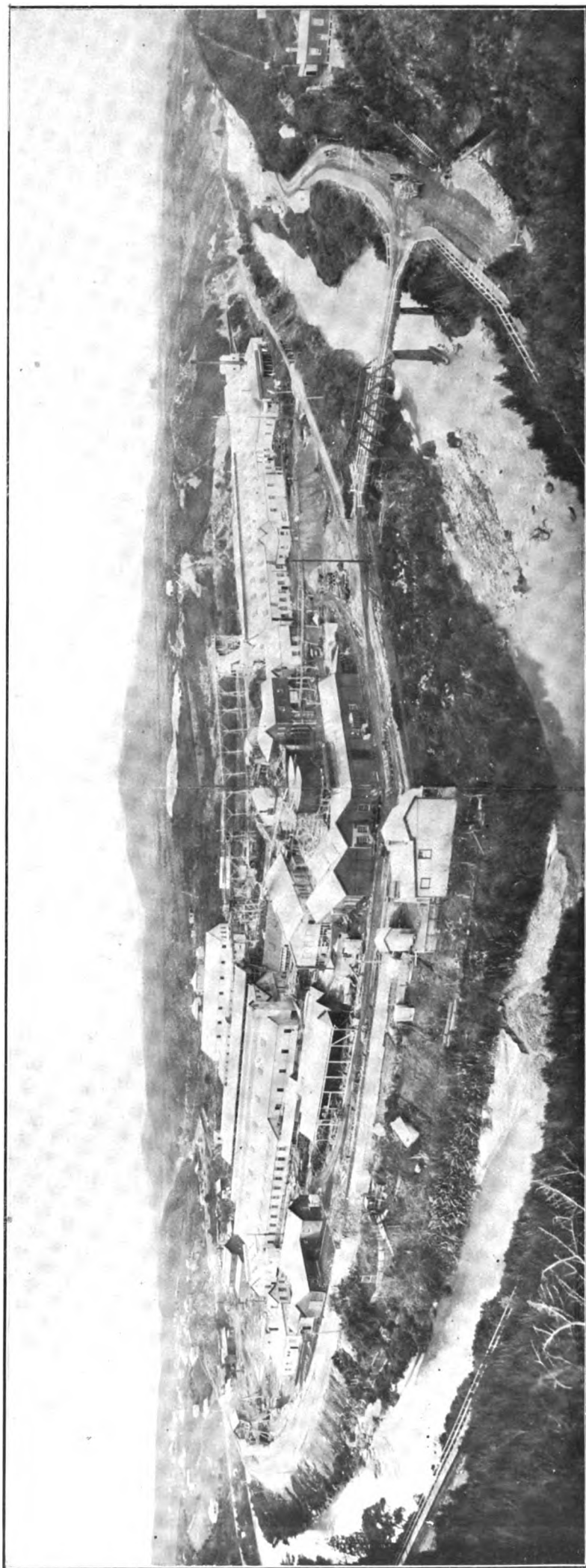
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THE OPEN CUT ON THE MARTHA REEF, LOOKING EAST: WAIHI GOLD-MINING COMPANY (LIMITED).



VICTORIA MILL,, ON THE OHINEMURI RIVER, WAIKINO, ONE OF THE THREE MILLS OF THE WAIHI GOLD-MINING COMPANY (LIMITED).

REPORT.

Mr. FRANK REED, M.Inst.M.E., Lic. Surveyor, Inspecting Engineer of Mines, to the Hon.
JAMES MCGOWAN, Minister of Mines.

SIR,—

Mines Department, Wellington, 24th April, 1907.

I have the honour to submit the annual reports of inspection, together with those of Wardens and other officers, accompanied by statistical information in regard to the goldfields and metalliferous mines of the colony, for the year ended 31st December, 1906.

In accordance with the usual practice, the tables showing expenditure through the Mines Department on roads, bridges, tracks, prospecting operations, &c., are for the period covered by the financial year—viz., from the 1st April, 1906, to the 31st March, 1907.

The reports, &c., are divided into the following sections :—

- I. Production of Minerals.
 - II. Persons employed.
 - III. Accidents.
 - IV. Gold-mining—
 - (1.) Quartz.
 - (2.) Dredging.
 - (3.) Alluvial.
 - V. Minerals other than Gold.
 - VI. State Aid to Mining.
 - VII. Schools of Mines.
- Appendices.—Reports of—
- (a.) Inspectors of Mines.
 - (b.) Wardens.
 - (c.) Directors of Schools of Mines.
 - (d.) Water-race Managers.
 - (e.) Director of the Geological Survey of New Zealand.
 - (f.) Mining Statistics.
 - (g.) Examinations under “The Mining Act. 1905.”

I. PRODUCTION OF MINERALS.

The value of the production of the metalliferous mines of the colony is still increasing rapidly. The appended statement shows the value of the outputs from the various metalliferous mines and gum-fields in New Zealand from the 1st January, 1853, to the 31st December, 1906 :—

Classification.	1905.	1906.	Increase or Decrease.	Total from the 1st January, 1853, to the 31st December, 1906.
	£	£	£	£
Gold	2,093,936	2,270,904	176,968*	69,501,488
Silver	120,542	143,572	23,048*	921,267
Copper-ore	17	...	17†	18,228
Chrome-ore ... ..	...	...	...	38,002
Manganese-ore	165	40	125†	61,831
Antimony-ore ... ..	...	...	...	52,598
Hæmatite ore ... ..	...	...	...	439
Mixed minerals	8,136	18,241	10,105*	158,852
Kauri-gum	561,444	522,486	38,958†	13,443,017
Totals	2,784,240	2,955,243	171,003*	84,195,722

* Increase.

† Decrease.

PRODUCTION OF GOLD.

The following comparative statements show the quantity and value of gold entered for exportation for the last two calendar and financial years :—

Name of District.	Year ended 31st December, 1906.		Year ended 31st December, 1905.		Increase for 1906.	Decrease for 1906.
	Quantity.	Value.	Quantity.	Value.		
	Oz.	£	Oz.	£	Oz.	Oz.
Auckland ...	295,417	1,195,541	232,215	935,602	63,202	...
Nelson ...	2,944	11,746	6,469	25,862	...	3,525
West Coast ...	104,743	414,292	109,704	438,258	...	4,961
Otago ...	160,739	649,325	172,098	694,214	...	11,359
Totals ...	563,843	2,270,904	520,486	2,093,936	43,357*	...

Name of District.	Year ended 31st March, 1907.		Year ended 31st March, 1906.		Increase for 1907.	Decrease for 1907.
	Quantity.	Value.	Quantity.	Value.		
	Oz.	£	Oz.	£	Oz.	Oz.
Auckland ...	298,188	1,202,975	248,031	1,000,954	50,157	...
Marlborough ...	110	438	...	...	110	...
Nelson ...	3,584	14,329	4,421	17,650	...	837
West Coast ...	96,783	381,874	110,996	443,089	...	14,213
Otago ...	153,607	620,901	162,752	655,913	...	9,145
Totals ...	552,272	2,220,517	526,200	2,117,606	26,072†	...

* Total net increase, value £176,968.

† Total net increase, value £102,911.

II. PERSONS EMPLOYED.

The appended statement shows the number of persons ordinarily employed in or about the metaliferous mines of the colony during 1906 :—

Classification.	Inspection District.			Total.
	Northern.	West Coast.	Southern.	
Gold and silver ...	2,706	3,459	2,386	8,551
Antimony ...	4	25	12	41
Copper ...	19	31	4	54
Hæmatite ...	...	2	...	2
Iron ...	...	19	...	19
Platinum ...	...	...	11	11
Scheelite ...	...	...	38	38
Totals ...	2,729	3,536	2,451	8,716

The number of diggers engaged upon the kauri-gum fields varies between 5,000 and 7,000; the actual number is not known.

III. ACCIDENTS.

The following is a classification of fatal and serious mining accidents that have occurred during 1906 at all mines other than coal :—

Inspection District.	Explosions.		Falls of Ground.		In Shafts.		Miscellaneous Under-ground.		Surface.		About Dredges.		Total.	
	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.	Fatal.	Serious.
Northern ...	3	...	1	1	1	1	...	1	1	4	...	...	6	7
West Coast ...	...	...	1	2	...	...	...	...	...	...	2	1	3	3
Southern ...	...	...	1	1	...	...	...	...	...	...	4	1	5	3
Totals ...	3	...	3	4	1	1	...	1	1	4	6	2	14	18

Being at the rate of 1·6 fatalities per 1,000 persons employed.

V. GOLD-MINING.

Gold occurs in New Zealand in two forms—viz., as contained in quartz veins or reefs, and as alluvial gold; and the prosperity of this industry may be gauged by the fact that the gold-export for 1906 was the highest for thirty-six years. The dividends paid by registered companies amounted to £790,020, which represents the high proportion of 34·7 per cent. of the value of the total production from all gold-mines. The profits of the privately owned mines would, if known, materially increase this proportion, as the dividends from 110 dredges and 71 hydraulic-sluicing plants privately owned are unascertainable.

The following statement shows the value of the gold-production and the proportion of the same paid in dividends in this colony during 1906 :—

—	Production of Gold, 1906.	Dividends paid, 1906.	Percentage of Pro- duction paid in Dividends.	Number of Persons ordinarily em- ployed.
	£	£	Per cent.	
Quartz-mining ...	1,494,087	653,972	43·5	3,715
Dredge-mining ...	501,199	103,722	20·6	4,836
Alluvial mining ...	275,618	32,326	12·6	
Totals, 1906 ...	2,270,904	790,020	34·7	8,551
Totals, 1905 ...	2,093,936	617,201	29·4	9,362

For comparison, the value of the production and the proportion of the same paid in dividends in New Zealand and the various States of Australia is here given :—

State or Country.	Production of Gold, 1906.	Dividends paid.	Percentage of Production paid in Dividends.
	£	£	Per Cent.
New Zealand, 1906 ...	2,270,904	790,020	34·7
West Australia, 1905 ...	8,305,654	2,167,639	26·1
Victoria, 1905 ...	3,175,875	454,431	14·3
Queensland, 1906 ...	4,198,647	626,957	14·9

(1.) QUARTZ-MINING.

This, the most productive branch of gold-mining in New Zealand, continues to increase in prosperity, as shown in the following statement :—

Inspection District.	Tons of Ore treated.		Value of Bullion.		Dividends paid.	
	1906.	1905.	1906.	1905.	1906.	1905.
			£	£	£	£
Northern ...	464,237	408,197	1,312,720	1,023,027	590,135	418,222
West Coast ...	100,207	116,901	169,929	196,368	63,837	55,192
Southern ...	9,877	12,259	11,438	17,058	Unknown	Unknown.
Totals ...	574,321	537,357	1,494,087	1,236,453	653,972	473,414

Northern District.

The principal quartz-mines of New Zealand are situated in the Ohinemuri and Thames Counties, in this district, and mining operations on the Waihi and Karangahake goldfields, in the former county, have proved the strong veins or "reefs" to maintain their dimensions and ore-values to the greatest depths yet attained, and with every indication of permanency. On the Thames Goldfield, and also at Coromandel, at a depth of about 500 ft. a change of country rock has apparently caused an impoverishment of the veins, and but little work has been done to prove the deep levels, notwithstanding that

at the Thames there is available for this purpose a shaft, the property of the Government, already equipped with winding-engine and cage, and pumps capable of dealing with 2,000 gallons of water per minute.

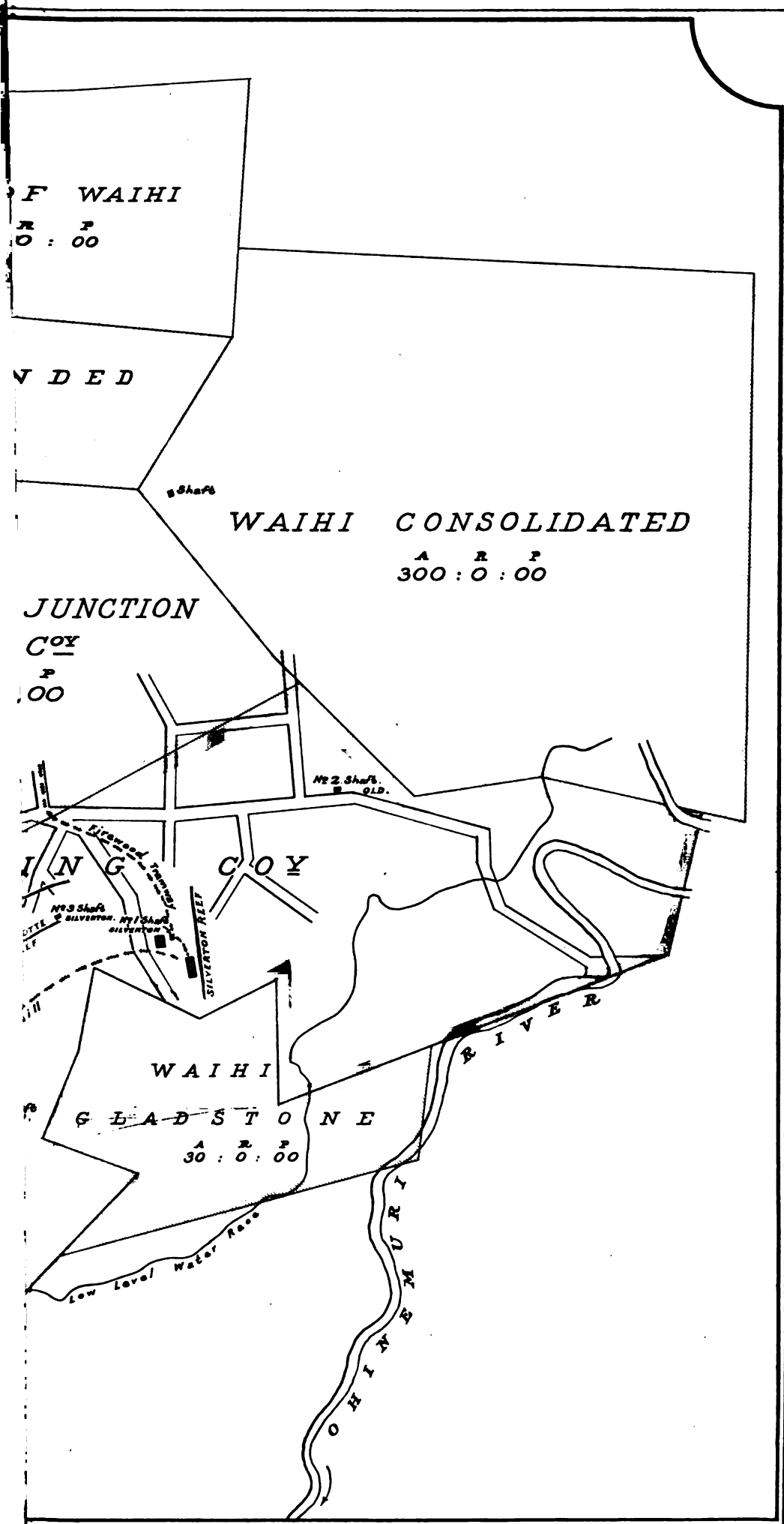
The following is a statement showing the quantity of quartz treated, the value of bullion yielded, and dividends paid by the principal quartz-mines during 1906 :—

Name of Mine.	Tons of Quartz treated (2,000 lb. to a Ton).	Value of Bullion.	Average Value per Ton.	Dividends paid.		Number of Persons ordinarily employed.
				1906.	Total to End of De- cember, 1906.	
Northern District—		£	£ s. d.	£	£	
Waihi Gold-mining Company (Ltd.)	328,866	781,553	2 7 6	347,135	2,271,753	1,465
Grand Junction Gold-mining Com- pany (Ltd.)	8,144	13,794	1 13 10	...	...	238
Waiotahi Gold-mining Company (Ltd.)	18,002	223,678	12 8 6	183,000	274,800	155
Talisman Consolidated (Ltd.) ...	49,573	152,011	3 1 3½	60,000	90,000	275
Komata Reefs (Ltd.) ...	20,490	45,448	2 4 2½	...	26,664	160
New Zealand Crown Mines (Ltd.)	22,080	40,735	1 15 0½	...	70,000	142
New May Queen (Ltd.)...	3,333	10,715	3 4 3	...	Unknown	39
West Coast District—						
Keep-it-Dark Quartz-mining Com- pany (Ltd.)	13,300	18,887	1 6 10	9,000	154,666	50
Progress Mines of New Zealand (Ltd.)	59,100	91,200	1 14 5	34,375	261,250	330
Consolidated Gold-fields of New Zealand (Ltd.)	19,401	36,307	1 17 5	12,119	137,606	182
Big River Gold-mining Company (Ltd.)	2,037	7,904	3 17 7	2,332	49,698	28
Other quartz-mines ...	41,965	71,855	...	6,011	Unknown	651
Totals, 1906 ...	586,291	1,494,087	2 10 11	653,972	...	3,715

At the Waihi Gold-mining Company's mine, the most productive gold-mine in Australasia, a continuously increasing output at an increased yield of 1s. per ton has to be recorded, but it is not apparent whether this increased yield is due to richer ores as depth is attained, or a higher rate of extraction at the mills and cyanide-works. The total quantity of ore treated at this mine during 1906 was 328,866 tons, of which the Martha reef contributed 146,409 tons, or 44·5 per cent., the balance being obtained from fifteen other reefs on this property.

A description of the workings of this mine unaccompanied by plan and sections would be somewhat complicated, as the Martha reef, which averages over 90 ft. in width, and is developed to a depth of 800 ft. or more, and for a length exceeding 1,400 ft., forms but one of a series of interlacing veins, the workings of which are often connected. The only data upon which to base deductions as to the maintenance of values by such great ore-bodies is the evidence disclosed by the development of somewhat similar ore-deposits elsewhere, which information is more accessible to and as well understood by the intelligent and travelled miner as by the professional geologist. In magnitude there is nothing analogous known to the vein system here existing; but as evidence upon which to form an estimate of the continuity in depth and ore-values of such strong quartz veins, we have the Beaconsfield and Golden Gate reefs in Tasmania, the Great Fingall reef in Westralia, and several instances in Western America all known to the writer. The evidence unfolded by mining operations at depth on all these veins is extremely favourable to the permanence of the Waihi reef system: beyond this no one can speak. Quartz veins are profitably mined in Victoria at a depth of 4,175 ft., and the "Martha" reef is stronger than any vein in Victoria. The total production from this mine to the end of 1906 was £5,355,254, as a result of treating 1,921,670 short tons (of 2,000 lb.); and £2,271,753 has been paid in dividends. During the year the number of feet driven, risen, and sunk at this mine amounted to 19,347, or 3·66 miles; and 1,465 men were ordinarily employed. No further addition has been made to the milling-power of 330 head of stamps and six tube mills, but to add stability to the batteries heavy anvil-blocks have been placed under the mortars throughout. The substitution of the vacuum slimes plant (with rectangular tank and basket) in place of the filter-presses has proved a success. It is proposed to increase the number of tube mills, and in connection therewith to erect a 1,000-horse power (Crossley) producer-gas plant. It is also proposed to equip the No. 5 shaft for winding "skips" to facilitate rapid discharge by an engine of two cylinders, 30 in. diameter, with 6 ft. stroke. The two Cornish pumps employed on the drainage of this mine raised during the year a total of 697,707,996 gallons.

At the Grand Junction Mine, which adjoins the Waihi property, operations are being carried out upon an extension of the same vein system which has been here proved to a depth of 811 ft. It is pro-





posed to increase the milling-power from 40 heads, as at present employed, to 100 heads. The whole of the milling plant and the greater part of the other machinery at this mine is electrically driven. During the past year 2,600 ft. were driven, risen, and sunk.

The Talisman Consolidated Mine has shown a marked increase in production, and the amount of dividends paid during 1906 amounted to £60,000, being double those paid the previous year. Developments during the year have proved considerable ore-reserves, and 5,920 ft. have been driven, risen, and sunk at this mine.

On the Thames Goldfields the Waiotahi Mine has again maintained its reputation by producing during the past year 18,002 tons of ore, with an average yield of £12 8s. 6d. per ton, and as a result has declared in dividends £183,000. Mining operations are conducted upon three separate veins or "reefs," all of which produced very rich ore; the greatest "bonanza," however, occurs between the 4th and 5th levels, and it is from this that the enormously rich specimen stone is obtained, which so greatly increases the average yield per ton. During the year a cyanide plant has been erected, and the extraction obtained thereby is claimed to be 95 per cent.

Operations at the New May Queen Mine, also situated on the Thames Goldfield, show encouraging indications of a continuance of the ore-values with depth, recent developments in the low levels at this mine having proved the deepest payable gold yet obtained on the field. During the year this company acquired the adjoining lease known as the "Queen of Beauty," upon which is situated in a small reserved area the shaft and pumping plant of the Thames Drainage Board previously referred to, and it is proposed by this company to continue the said shaft to the 1,020 ft. level preparatory to driving a crosscut to intersect their lines of reef.

West Coast District (South Island).

At the Progress Mines of New Zealand (Limited) development-work during the year failed to open up any new ore-bodies except in the No. 11 level, where a discovery of value was made. Notwithstanding generally unsuccessful developments, this company have succeeded in maintaining their dividends, the amount paid during the year being £34,375, which equals that of 1905. A diamond drill has been employed in prospecting, and 4,500 ft. have been risen, driven, and sunk. The average value of the ore treated was £1 14s. 5½d. per ton, the working-costs 17s. 10d. per ton, leaving a profit of 16s. 6d. per ton.

At the properties of the Consolidated Goldfields of New Zealand (Limited) a considerable amount of exploration, both underground and by the diamond drill, was carried out, but without developing anything of much importance. During the year 1,506 ft. was driven, risen, and sunk at these mines. This company also maintained their dividends, paying £12,119 during 1906.

The Keep-it-Dark Quartz-mining Company, after thirty-three years' successful operations, continues to maintain its output, and has recently declared its 177th dividend; the total amount so paid at the end of 1906 was £154,666. The total amount of capital called up only amounts to £6,208, or 6s. 2d. per share, against a profit of £7 14s. 8d. per share—a remarkable record. During the year a further reduction of 6d. per ton has been effected in the cost of cyaniding, which is attributed to the introduction of caustic soda as a more economical and efficient solvent in treating antimonial ores, thus reducing working-costs to 10s. 9d. per ton, which will compare favourably with those at any mine in the world.

The Blackwater Mines (Limited): This property, which was discovered in 1905 by a party of prospectors subsidised to the extent of £200 by the Government, was sold by them to Mr. P. N. Kingswell, who in turn sold it to the Consolidated Goldfields of New Zealand (Limited), who recently turned the same into a subsidiary company with a capital of £250,000, and during each change of ownership the vendors' profits were not inconsiderable. Systematic operations are now being carried out on this property, and a considerable amount of driving and prospecting has been done. A main shaft is in course of being sunk to a depth of 500 ft., a tunnel is being driven to meet it from a creek at a lower level, also another low-level tunnel to connect with a winze for drainage and other purposes. A great amount of work will be necessary to bring the property to the producing stage.

(2.) DREDGE-MINING.

This system of alluvial mining, which had New Zealand for its cradle, although now adopted in other countries, has probably produced about seven or eight million sterling of the total gold-production of this colony, and it is to be regretted that there has to be recorded an annual decrease both in the number of dredges at work and in the gold-production.

To enable dredge-mining to be carried out profitably, even when the ground to be operated upon is payably auriferous, it is necessary that a number of favourable conditions shall exist, the absence of any one of which may render unprofitable the undertaking. The presence of snags, or of large boulders, the hardness of the matrix surrounding the same, a hard and rough bottom from which the dredge-buckets are unable to clean up the gold, and in connection with paddock dredges the limited space of operations causing the gold to be stirred up and held in suspension in the muddy water, are all causes any one of which may render unprofitable an otherwise promising proposition. There is therefore no cause for surprise that the system of alluvial mining by hydraulic sluicing and elevating is now being applied whenever practicable in preference to the bucket-and-ladder dredge.

The following statement shows the number of dredges, the gold produced by them, and the dividends paid during 1905 and 1906 :—

Inspection District.	Number of Dredges.				Yield during 1906.	Average Yield per Dredge, 1906.	Dividends paid.	
	1905.		1906.				1906.	1905.
	Idle.	At work.	Idle.	At work.				
West Coast ...	5	40	7	31	£ 86,082	£ 2,777	£ 24,086	...
Southern ...	27	145	23	136	415,117	3,052	79,636	...
Totals ...	32	185	30	167	501,199	3,013	103,722	123,648

During 1906 the average yield per working dredge was £3,013, and the expenditure thereon £2,200; the average time worked per year was forty weeks, with working-costs at £55 per week; therefore the net profit per dredge was £813, less depreciation.

The future prospects of this branch of mining depend upon the further reduction of working-costs to enable the low-grade drift to be rendered payable. How this reduction is to be effected is in many cases a difficult question to solve; but in cases where water-power is available it may by its direct application, or by its use in the application of electricity, materially assist in reducing costs. At the Earnscleugh No. 3 dredge the application of electricity has proved a saving in the cost of power of 50 per cent. The disadvantage of hydro-electricity is its initial cost, which would bear heavily on one dredge. This might be avoided by the formation of power companies, but such undertakings would be subject to similar treatment and labour under similar disadvantages as water-race companies have experienced in the past.

In the Southern District eight dredges are now operated by hydraulic power, and this number will probably be increased.

The following is a statement regarding the most productive dredges the property of registered companies during 1906 :—

Name of Dredge.	Production during 1906.	Dividends paid	
		During 1906.	To 31st December, 1906.
West Coast District—	£	£	£
Pactolus (2 dredges) ...	24,305	16,875	37,813
No Town Creek ...	7,153	3,000	16,775
Southern District—			
Masterton ...	11,515	8,500	15,000
Mystery Flat ...	5,888	2,480	8,268
Otago ...	9,835	3,125	13,500
Sandy Point ...	6,030	2,000	7,200
Waikaka Syndicate ...	13,739	4,200	7,000
Waikaka United ...	14,240	8,120	19,040
Argyle ...	6,364	2,892	6,492
158 other dredges ...	422,130	52,530	Unknown
Totals ...	501,199	103,722	...

Of the 136 dredges at work in the Southern District, fifty-two are owned by working shareholders or small syndicates, many of which are highly successful.

(3.) ALLUVIAL MINING.

During 1906 the production of gold by alluvial mining amounted to £275,618, the greater portion of which was obtained in the Southern District, from the Provinces of Otago and Southland. The method adopted in working the alluvial deposits depends on the depth of the superincumbent strata, the elevation at which they occur, and the water-supply available. If all these conditions are favourable, the systems mostly employed on account of their economical application are those known as "hydraulic sluicing" or "hydraulic sluicing and elevating." By these methods a yield of 1 grain of gold (value 2d.) per cubic yard will often pay working-expenses. Sluicing and elevating is being substituted for dredging on flats in several places for reasons already stated. In connection with this system of mining, some interesting statistics have been supplied by the Round Hill Gold-mining Com-

pany, in the Southern District, which have been obtained by a practical working-test as a result of treating 2,250,000 cubic yards of material, the average depth of which was 45 ft., for a return of £22,164, being at the rate of 2·363d. per cubic yard. The cost of mining was 1·75d. per cubic yard, which includes depreciation on plant; the net profit per cubic yard was therefore 0·61d. In this case it has only taken 0·88 of a grain of gold per cubic yard to pay expenses. The two elevators which were employed averaged each 69 cubic yards per hour, working 300 days each year. The above figures may be of service as showing an extensive working-test.

During 1906 the average cost in the Southern District was about 1½d. per cubic yard, and on the West Coast about 2d.

At the present time there are in active operation forty-four hydraulic-sluicing and elevating plants and forty-eight hydraulic-sluicing plants, all the property of registered companies, and it is probable that these numbers will be increased during the current year. In addition to the above, a large number of plants are privately owned, and the returns from these are not obtainable.

The amount of ground-sluicing in New Zealand is insignificant. The only black-sanding or "beach-combing" in the Southern District is at Orepuki, where twelve men are intermittently employed.

On the West Coast a decrease of £18,709 in the production of alluvial gold by registered companies has to be recorded, the total production during 1906 being £86,082. There are at work fifteen sluicing plants and three hydraulic-sluicing and elevating plants. The black-sanding or "beach-combing" in the Charleston district has given profitable returns, one group of fourteen men obtaining £300 in nine days. This kind of mining, however, is very uncertain, depending as it does on the tides and elements, for after storms the best returns are obtained.

Alluvial mining in the immediate locality of the once famous diggings of Hokitika and Kumara is dormant, but at Ross a movement is on foot for the purpose of draining and reopening the mines at Ross Flat, which field, formerly known as the Totara Diggings, was first rushed in 1865, and produced large returns from the shallow workings, and later from a shaft sunk by Mr. Cassius, 300 ft. in depth, until in 1872 the accidental tapping of old workings flooded the deeper levels. In 1882 operations were recommenced, but in 1887 the workings were again inundated by the same cause. A shaft sunk by the late Ross United Company to a depth of 392 ft. passed through eight separate auriferous layers and never reached bed-rock. That the ground is very rich has been proved beyond all question, but the working of the same and the winning of this hidden treasure will require skilled management and adequate working-capital. In such a proposition as the reopening of these mines the employment of insufficient capital will spell disaster, for it is impossible to form a correct estimate on the data available of the quantity of water which will be encountered. The late Mr. T. J. Waters, M.A.I.M.E., estimated that pumps capable of discharging 1,900 gallons per minute would suffice, and other engineers in later reports have accepted these figures. This estimate was based upon the rainfall over a given area of 1,000 acres, but is mere conjecture.

V. MINERALS OTHER THAN GOLD.

COPPER.

The high market price ruling for the metal copper has caused increased attention to be given to the cupriferous deposits of New Zealand, and several mines which have been closed down for a considerable period have been reopened.

At Pupuke, near Whangaroa Harbour, three syndicates are engaged prospecting; but although nodules of chalcopyrite have been found in a much-broken lodelike formation, the results obtained hitherto are far from payable.

The old Maharahara Mine, near Woodville, has again been reopened, and a company are obtaining a parcel of ore for shipment. A large siliceous hæmatite lode containing chalcopyrite and bornite in small shoots is being developed by two tunnels in the slopes of the Ruahine Ranges, but as yet there is not sufficient work done upon which to base an estimate of this property.

The Maoriland Copper Company, near Nelson, are reopening the old Champion Mine and the surrounding properties, which have now lain dormant for so many years. A shipment of 500 bags of ore has been recently made from this property.

With improved methods and an increased market price obtainable these properties may have a more promising future.

During 1906 the discovery of a promising copper-field was made by Messrs. J. and R. Johnson at Mount Radiant, which lies at the head-waters of the Mokihinui and Little Wanganui Rivers, a distance of about twelve miles south-east of the Port of Karamea. The cupriferous veins, which occur in a grey porphyritic granite, have a general north-east and south-west trend, and have been traced for several miles. The outcrops expose strong quartz and feldspar veins, the mineral contents of which are copper, in the form chiefly of chalcopyrite, also molybdenite, and iron-pyrites, the latter carrying small quantities of gold and silver. Insufficient work has been done to pronounce upon the width of the veins or of their "economic possibilities," as no importance should be attached to the results of a fire assay from a picked specimen of outcrop ore, and as yet no tests in bulk have been made; but

owing to the fact that the veins are strong, and contain payable iron-copper sulphides when first encountered their continuance to a considerable depth with comparatively slight alteration may be reasonably looked for; therefore the proper method to prospect this field is by deep trenches or open cut in preference to shafts or adits. Chalcopyrite occurs in every copper-field of importance; it is the most common ore of copper, and the source of nearly 75 per cent. of the world's supply of the metal. Until development-work is carried out, no one can speak with any degree of certainty regarding this field, but as a prospecting proposition it is most promising. A number of claims have been pegged out, and a track is being constructed to Mount Radiant from Karamea. Timber for mining purposes is plentiful.

ANTIMONY.

Antimony lodes are very plentiful in New Zealand, the most important deposits being situated on the West Coast and in Central Otago. Mining operations in connection with this mineral have not, however, been very extensive, the total value of the output amounting only to £52,598.

During the past year a revival of this industry has taken place, due, no doubt, to the high market price ruling for this mineral.

The Alexandra Antimony-mine, after several years' idleness, has been reopened, and preparatory to resuming active operations a winding and pumping plant are being erected.

Old mines are being reopened at the Carrick and Lammerlaw Ranges, and at Nevis Bluff a small quantity of the mineral has been found.

At Endeavour Inlet three separate parties are engaged prospecting for antimony.

SCHEELITE.

Considerable attention in the Southern District is being devoted to this mineral, which is principally used for hardening purposes in the manufacture of steel.

During the past year, from the Macrae's district, 94 tons, value £5,520, were exported.

The Glenorchy syndicate, which has resumed operations, obtained 14 tons of concentrates.

Operations on a small scale are also being carried out near Glenorchy, Buckleburn, and Lake Wakatipu.

IRON.

The development of the Parapara iron-field has been confined to the formation-work of a short railway connecting the field with the ocean-beach. Upon this work £1,200 was expended, and then protection was obtained. It is understood that this property is under option in London. The Geological Survey staff have recently conducted an exhaustive survey of this field.

VI. STATE AID TO MINING.

SUBSIDISED ROADS AND TRACKS.

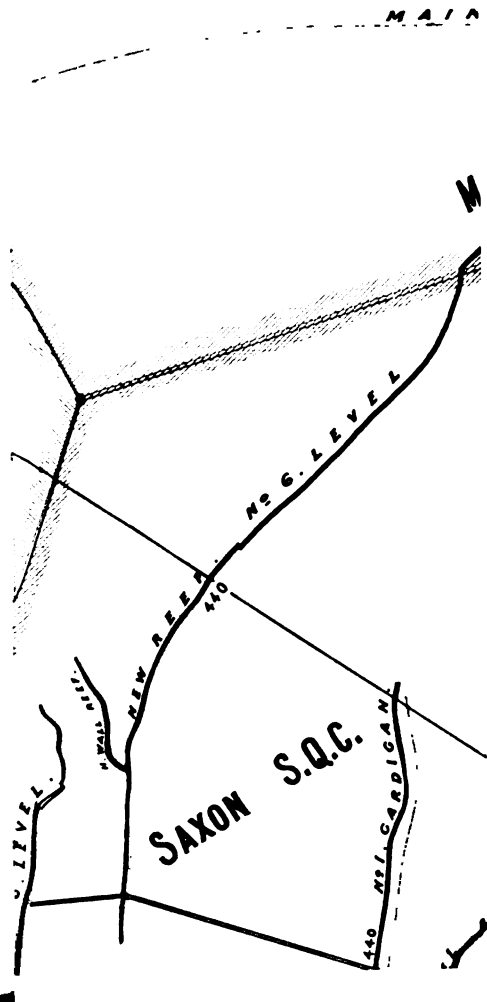
The expenditure (as subsidies) and the liabilities on outstanding authorities for the year ending the 31st March, 1907, are as follows:—

Name of Local Body.	Expenditure for the Year ending 31st March, 1907.	Liabilities on Authorities on 31st March, 1907.
	£ s. d.	£ s. d.
Sunbeam Gold and Silver Company	71 16 6	78 3 6
Coromandel County... ..	15 0 0	358 0 0
Public Battery, Kuaotunu	419 5 3	...
Thames County	25 0 0	...
Buller County	215 0 0	155 0 0
Inangahua County	25 0 0	...
Ross Borough	100 0 0	...
Westland County	6 15 0	18 5 0
Contingencies	158 1 9	...
Compensation for accidents	19 2 6	...
Totals	1,055 1 0	609 8 6

GOLDFIELD

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ROADS CONSTRUCTED BY DIRECT GRANTS.

The following statement shows the expenditure and liabilities on authorities issued on roads from direct grants to the several local bodies during the year ending the 31st March, 1907 :—

Name of Local Body.	Expenditure for the Year ending 31st March, 1907.	Liabilities on Authorities on 31st March, 1907.
	£ s. d.	£ s. d.
Whangarei County ... ..	...	100 0 0
Great Barrier Island	100 0 0	...
Coromandel County	2,660 7 9	3,090 0 0
Thames County	1,450 2 2	3,857 18 8
Thames Borough... ..	210 0 0	100 0 0
Ohinemuri County	1,628 11 6	2,243 14 3
Pelorus Road Board ... ..	...	717 16 3
Takaka County	1,366 6 3	1,009 1 6
Collingwood County	1,251 10 4	788 0 0
Waimea County	1,105 18 3	1,322 8 11
Buller County	5,168 0 0	3,400 0 0
Inangahua County	3,254 18 7	1,673 19 2
Grey County	1,625 0 0	1,125 0 0
Brunner Borough	95 8 0	204 17 0
Westland County	1,982 13 6	342 5 0
Tuapeka County	445 11 0	212 6 9
Vincent County	944 18 8	2,532 12 10
Lake County	513 0 0	100 0 0
Southland County	1,250 0 0	210 0 0
Wallace County	300 0 0	200 0 0
Stewart Island County	180 0 0	200 0 0
Roads Department	10,975 12 6	3,163 12 3
Public Works Department... ..	1,406 19 9	...
Totals	37,914 13 3	26,593 12 7

PROSPECTING FOR GOLD.

The following statement shows the expenditure and liabilities on authorities issued in subsidies to prospecting associations and parties of miners in the different counties for the year ending the 31st March, 1907 :—

Name of County.	Expenditure for Year ending 31st March, 1907.	Liabilities on Authorities on 31st March, 1907.
	£ s. d.	£ s. d.
Coromandel	814 14 2	304 8 0
Thames	26 8 0	...
Ohinemuri... ..	51 0 3	55 2 9
Tauranga	8 2 0	...
Takaka	118 2 0	...
Buller	148 17 3	135 8 0
Inangahua	573 16 0	291 13 0
Westland	914 11 8	409 18 0
Collingwood	150 0 0	250 0 0
Tuapeka	413 0 5	150 0 0
Grey	239 10 0	353 0 0
Totals	2,958 1 9	1,949 9 9

VII. SCHOOLS OF MINES.

The schools of mines, which have now been established twenty-two years, continue to contribute to the education of mining and metallurgical students at the principal mining centres. As showing the beneficial results of these establishments, it may be stated that many ex-students of the various schools hold responsible positions in connection with mining in all parts of the world.

At the New Zealand University Examinations held in November, 1906, mining students obtained the following distinctions: Honours in Science, 1; Masters of Science, 3; Senior Scholarships, 1; Final B.Sc., 2; Final B.E., 2; First Section B.E., 2; and for the fifth successive year the Sir George Grey Scholarship has fallen to a mining student.

During the past five years the following open scholarships have been obtained: Two Rhodes Scholarships; three 1851 Exhibition Scholarships; four Senior Scholarships, New Zealand University; and six First-class Honours in Science, all by mining students.

EXPENDITURE ON SCHOOLS OF MINES.

The following table shows the expenditure by the Government on schools of mines since their inauguration, exclusive of subsidies paid to the University of Otago towards the School of Mines in connection with that institution:—

Financial Years.	Subsidies towards the Erection of Schools of Mines, and Maintenance.	Chemicals and Apparatus, also Mineralogical Specimens supplied to Schools of Mines.	Scholarships.	Salaries of Teachers, and Travelling-expenses, &c.	Total Sum paid by the Department towards the Schools of Mines.
	£ s. d.	£ s. d.	£	£ s. d.	£ s. d.
1885-86	...	36 19 9	...	1,223 9 10	1,260 9 7
1886-87	257 16 6	409 1 4	...	2,716 9 3	3,383 7 1
1887-88	253 15 9	253 14 1	...	1,714 9 6	2,221 19 4
1888-89	42 10 0	6 12 9	...	1,139 4 1	1,188 6 10
1889-90	142 2 0	181 14 10	...	716 3 10	1,040 0 8
1890-91	217 6 6	54 8 0	...	620 9 9	892 4 3
1891-92	181 14 0	...	...	689 5 9	870 19 9
1892-93	312 3 4	...	...	670 1 0	982 4 4
1893-94	197 0 5	...	...	858 19 4	1,055 19 9
1894-95	390 0 0	45 10 10	...	773 17 8	1,209 8 6
1895-96	820 0 0	...	50	849 3 0	1,719 3 0
1896-97	352 14 11	58 18 6	100	834 12 8	1,346 6 1
1897-98	1,089 18 6	29 19 9	100	780 19 0	2,000 17 3
1898-99	740 15 2	32 19 7	50	729 10 11	1,553 5 8
1899-1900	990 3 4	24 3 8	50	52 16 3	1,117 3 3
1900-1901	866 10 11	56 8 4	98	77 7 10	1,098 2 1
1901-1902	1,155 12 3	63 5 1	49	69 16 4	1,337 13 8
1902-1903	1,379 15 6	134 18 8	158	111 0 0	1,783 14 2
1903-1904	1,575 15 3	88 18 8	92	109 15 10	1,866 9 9
1904-1905	1,401 2 11	17 3 0	100	362 19 6	1,881 5 5
1905-1906	1,806 19 5	87 2 1	49	440 9 4	2,383 10 10
1906-1907	1,836 6 6	11 15 8	100	388 18 5	2,337 0 7
Totals ...	16,010 3 2	1,593 9 7	996	15,929 19 1	34,529 11 10

The above statement shows the amount expended on the different schools of mines throughout the colony; but, in addition to this, the sum of £12,053 6s. 2d. has to be added, as that has been paid to the school of mines attached to the University of Otago, £500 being paid last year towards maintaining the school, which makes the total expenditure up to the 31st March last to be £46,582 18s. This expenditure has extended over a period of twenty-two years.

The schools of mines examinations were held in December, 1906, and eighty-five students presented themselves for examination in some of the twenty subjects on which papers were set, the result of such examination appearing in the *New Zealand Mines Record* of 16th January. Only one student—viz., Mr. W. M. Durant, of Reefton—succeeded in obtaining first-class passes in the requisite number of subjects to entitle him to one of the four Government scholarships at the University of Otago, of the annual value of £50, tenable for three years.

I have, &c.,
FRANK REED,
Inspecting Engineer of Mines.

APPENDIX.

(a.) REPORTS OF INSPECTORS OF MINES.

Mr. JAMES COUTTS, Inspector of Mines, Thames, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Inspector of Mines' Office, Thames, 6th April, 1907.

I have the honour to furnish herewith the returns and report on the gold-mining industry in the Hauraki District for the year ended the 31st December, 1906.

Before commenting on any particular mines, it may be interesting as well as instructive to appor- tion the values of gold obtained to each respective county and borough, so as to afford an opportunity of contrasting each total with the previous year's, thereby enabling us to see where the most progressive operations have been carried on during the year.

	1906.			1905.		
	£	s.	d.	£	s.	d.
Great Barrier Island	4,812	5	11	1,844	1	11
Coromandel County	8,406	11	8	7,461	10	7
Thames County and Borough	263,191	14	8	105,212	16	2
Waihi Borough	795,347	18	4	693,933	18	6
Ohinemuri County	239,088	17	7	208,231	2	6
Tauranga County	13	14	2	..	..	..
Piako County	1,859	7	6	6,343	16	9

It will be perceived that, with a couple of exceptions, substantial increases are recorded, which gives great encouragement for future operations; and although districts with small returns, such as Coromandel, have made very little headway, still the prospects have always been of a reassuring nature, stimulating the people who are with limited means with a keen desire to carry out exhaustive prospecting-work, entertaining as they do bright hopes that rich finds will yet be discovered.

WAIHI.

Waihi Gold-mining Company (Limited).—This company continues to improve the various appliances used for the extraction of the precious metals, with a view to increase the output and quantity of ore treated. Tube mills are being erected, which will be capable of pulverising the quartz from the stamps to the fineness required for the cyanide process, and by using coarser gratings a larger quantity of ore will be treated, therefore the object will be accomplished without having to erect more stamps. During the year 30,335 tons more was treated than the preceding year, and it is fully expected that for the year now entered upon a much larger increase will be obtained. The development-work in the mine is kept well in advance of present requirements by sinking the shafts, and by driving to open up the various lodes at the bottom levels; by this means there is a much larger reserve (or ore in sight) at present than there has been since the commencement of the company's operations. No. 6 shaft being sunk in the foot-wall of the reef system will be free from any movement in the country that may take place through the working out of the reefs. This shaft is close to the mother lode, the Martha, and it is intended to use it exclusively for raising ore, and arrangements are being made so that a large output per day can be attained. The usual methods of raising the ore will be dispensed with, and a more up-to-date plant installed. The winding-engine is a direct-acting one, with two 30 in. cylinders and 6 ft. stroke, with automatic cut-off gear and other improved appliances. The winding-drums are 12·5 ft. diameter. Instead of the ordinary cage with truck for raising the ore, a large self-tipping ore-truck and cage combined will be used. This will, it is claimed, be a labour-saving and economical system, and a greater amount of ore can be raised per shift. Arrangements are being made for a large storage-hopper adjacent to the shaft at No. 7 level, into which the ore will be tipped as it comes from the miners; here it will be weighed, &c. On the surface adjacent to the shaft there will be erected a large storage-bin, into which the ore as it is raised from the mine will be deposited and taken away as required for the mills. The mine was frequently inspected, and from time to time the manager's attention was directed to several matters providing for the safety of the men which had been overlooked, but were promptly rectified. I regret, however, to say that one accident happened in No. 2 shaft, whereby two men lost their lives through the neglect of the man in charge. The company are anxious to do anything within reason to prevent accidents, and, apart from the case mentioned, accidents are not greater than could be expected considering there are 1,465 men employed. The return for the year far exceeded the utmost expectations of those connected with the management, and the prospects for the future are brighter, whilst after continued steadily increasing outputs shareholders are beginning to realise that money is safely invested with most gratifying results, clearly instanced when the company was able to pay dividends to the extent of £347,134 18s. for the year, making a total of £2,271,752 14s. 6d. to the end of 1906.

Waihi Grand Junction Gold Company (Limited).—The work pushed forward during the year was chiefly the sinking of winzes every 80 ft. along the Nos. 1 and 2 lodes; these were put down to water-level in each case, with the object of being met by rises to be put up from the No. 4 level when driven. The shaft was carried down to a depth of 811 ft., and the No. 4 crosscut level pushed ahead

for a distance of 360 ft., in the course of which the No. 1 lode was intersected and driven on for a distance of 20 ft. both east and west on lode. In addition to the foregoing, a mullock-shaft was commenced at a point between the company's air-shaft and the electric-power station, and was carried down to a depth of about 50 ft. It is the intention to carry this shaft down about 130 ft. further to connect with No. 2 rise from the No. 2 level, which rise has been put up a distance of 300 ft. The following is a summary of work underground: Driving, 675 ft.; sinking, 1,182 ft.; rising, 550 ft.; cross-cutting to prove lodes, 193 ft. During the year the company pushed ahead the erection of the forty-stamp mill, and on the 20th August had the pleasure of letting the stamps fall for the first time. From that date crushing has been carried on with several slight stoppages not worth mentioning, and up to the end of the year recovered bullion to the value of £13,793, with an average of twenty-three stamps, the balance being idle owing to the filter-presses not being able to deal with more slimes. In January the company erected additional filter-presses, so that the forty stamps will soon be able to operate. Since crushing, however, it has been decided to add a concentrating plant to the present forty-stamp mill, and a plant consisting of ten concentrators has been ordered. This plant will arrive very shortly, when it will be installed with all speed, and it is considered will be most advantageous, as it will give a much higher extraction than hitherto. It is the company's intention to increase the crushing plant by the erection of another sixty head of stampers, and this plant is now on the ground. The erection of the new plant will be pushed ahead during the coming year. A new electric winding-engine has been installed for the purpose of winding in the shaft; but as it is not yet completed, no opportunity has been afforded of testing its value, but its winding-capacity will be about 1,200 tons from a depth of 2,000 ft. in twenty-four hours. The foregoing is the work carried out on the Junction section; but during the year the company acquired the Waihi Consols Company's properties, also the Waihi South, and on the Consols sections carried on the old upper and lower drives for some distance with a view to further prospecting that company's claims. Work was also commenced on the west section with a few men, and they are getting the shaft in thorough repair ready for working, and it is anticipated that further mining operations will be carried on there in the near future. During the year the company employed on the average 205 wages-men and thirty-three contractors per month.

Waihi Extended Mine.—The operations carried out in the early part of the year were confined to, driving on No. 2 lode at No. 3 level from the point of intersection to the Grand Junction boundary and workings, a distance of 200 ft. Since then three winzes have been sunk on the lode from this level, No. 1 having been sunk 142 ft., No. 2 25 ft., and No. 3 to a depth of 50 ft. In sinking, the quartz assayed from time to time gave highly payable results. The main shaft has been sunk to a depth of 155 ft. below No. 3 level, and a chamber formed from which a drive is to be pushed on with all possible speed to connect with No. 1 winze, which when accomplished will give good ventilation to this part of the mine. As the shaft was extended in depth it was found that more power was required to raise the quartz, &c., out of the shaft, and to meet the case a 60-horse power multitubular boiler was installed, also an 8 in. double-cylinder steam-winch for sinking purposes. As depth is attained the prospects met with are said to be most encouraging, and the manager is hopeful that in time it will become a gold-producing and payable mine. Fifteen men were employed.

Waihi Syndicate (Limited) (Waihi Consolidated).—The syndicate having an option over this property commenced sinking a prospecting-shaft in the last week of 1905. This shaft (11 ft. by 6 ft. in the clear) has up to 31st December, 1906, been sunk to a depth of 395 ft. From the surface down to 314 ft. the shaft was good sinking, being mainly in pumice sediment; from that point to present depth a stratum of boulders is being penetrated, which has retarded progress and gives a lot of water. Two 16 ft. by 6 ft. multitubular boilers have been installed, the last one in October, the pumping plant being a 5,000-gallons-an-hour Tangye in the bottom, and a 1,200-gallons-an-hour Worthington at 250 ft. lodgments. The winding-engine consists of a pair of 10 ft. cylinders, with 18 in. stroke, and is of ample power for extent of intended operations. The intention of the syndicate is to carry the shaft down to 800 ft. or over before opening out for crosscutting, provided ore is not struck in the sinking. The average number of men employed during the year was twenty-one.

Walker's Gigantic Mine.—Work was commenced on this property towards the close of 1905, under the management of Mr. Alfred Newdick. A shaft 8 ft. by 8 ft. in the clear was started on the approximate strike of the Martha reef, the intention of the proprietor being to sink until favourable country was met with and then to crosscut for the reef. Eight men were employed sinking with hand-windlass, and a depth of 63 ft. was attained. At this point water was making so rapidly that it was thought advisable to drive a drainage adit to tap the shaft at about 120 ft. Work was then started on this and a distance of 300 ft. driven, when operations were suspended and protection sought pending the introduction of further capital. A further distance of 50 ft. is required to get under the shaft. A total of £800 was spent during the period under review, the greater portion being expended on wages. An average of three men were employed during the year.

Waihi Beach United Mine.—During the year this company has vigorously continued driving on the reef, which has, unfortunately for them, proved of low-grade ore. As the drive was extended along the line of reef, samples were taken from time to time and assayed at the company's mine office, which, taken on the average, would be too low in value to work at a profit. It was hoped that as the reef was driven on better values would be met with. As the mine was opened up water from the country rock drained into the mine; this proved troublesome, and for a time hindered the progress of development. The shaft has been renovated during the year and the bucket dispensed with and the much better system of cages installed. An average of twelve men were employed during the year.

KATIKATI.

The Eliza Claim.—This claim is owned by a syndicate of Waihi and Katikati workmen, who have for some time been carrying on prospecting. A few years ago this district was prospected and some

rich stone found near the surface. On this company's claim a reef outcrops, and from the ore on the two walls some good prospects were obtained; this gave them encouragement to put in a low level to cut the reef at a depth, which when cut unfortunately did not prove to be much improvement. The reef between the walls is about 3 ft. wide, but only a few inches on each wall carry values. The centre of the reef being mostly mullock, application for assistance to put in a lower level was made to the Mines Department and granted; but the company did not proceed with the low level, but continued the No. 1 level through the reef into the country for some distance without meeting with anything of value. Two men have been employed during the year.

OWHAROA.

The Rising Sun Claim.—During the year this company has done a good deal of work in driving on the reef, and at several points along the line of reef good values have been met with. Nothing has been done in the way of stoping out on the reef, and I am not aware of any ore being sent away from the mine for treatment. The company has stuck well to this mine, and it is to be hoped that they will meet with something better in the coming year. An average of four men were employed during the year.

There are two other parties prospecting in this district, but they have not discovered anything worth mentioning; indeed, very little has been done by them during the year.

WAITEKAURI.

Waitekauri.—Very little has been done in this district during the year. Several parties have been prospecting, but nothing much has been done by the way of discovering any new reefs. Collins and party during the year crushed some picked stone for a return of £272 13s. 6d. This ore is from a small leader. A considerable amount of work has been done on this claim, and when last visited the mine was in good order, two men being employed.

The New Waitekauri Gold-mining Company.—This is the ground formerly held by the Old Waitekauri Gold-mining Company, and known as the "Horn and Queen levels," and is now being worked by Pierce, Grace, and party, who have during the year been employed in clearing out and retimbering the various old levels, and a rise has also been commenced from the Horn level to connect with the upper or Queen level. Two men have been employed during the year. The company has purchased the Old Waitekauri Gold-mining Company's big battery, and intend to connect the mine and battery with an aerial tram-line, so that when this work is completed the work at the mine will be vigorously proceeded with, and it is hoped will prove a profitable venture.

Maoriland.—During the year this company got its nine head of stamp battery completed, with an up-to-date cyanide plant attached. The mill is driven by water-power. The pipe which leads from the mill to the dam is 750 ft. long and the head 150 ft.; in an ordinary season there is a good supply of water. The mill is connected with the mine by an aerial tram-line and a short line of railway, the aerial line being about 600 ft. long to the mine. Since commencing crushing at the mill 325 tons have been treated for a return of £382 15s. 3d. The work at the mine has been mostly stoping on the No. 4 and No. 1 reefs over the low level. No development-work has been done during the year, but it is the intention of the mine-manager to sink on the reef to prove its thickness and value below the present low level, and should the results prove favourable a new low level will be put in to prove the value and thickness of the reefs at a greater depth, about 300 ft. below the present workings. It is hoped that this new work when completed will prove of great value to the company. An average of sixteen men were employed by the company during the year.

Huanui Gold-mining Company.—This claim has been held and worked by a syndicate of working-men. It is situated on the eastern side of the Waitekauri Range, between Komata and Waitekauri. The reefs are from 1 ft. to 2 ft. thick, and at times very encouraging prospects have been met with; a good deal of development-work has been done to prove the value of the reefs at a depth. The No. 1 adit level was driven a distance of 500 ft. before the reef was cut, and the reef was then driven on for a considerable distance along the line of the lode, and then the No. 2 adit level was constructed and the reefs cut, the length of this drive being 650 ft., and the reef driven upon for a distance of 300 ft., and a connection made by a rise with the No. 1 adit level. A trial sample of several tons was sent away for treatment, and I understand the result was considered satisfactory. Early this year the No. 3 adit level was commenced, and after driving 735 ft. a reef was cut. It is intended to drive along the line of reef until a point immediately below a winze from the No. 2 level is reached, and then connect with that winze by a rise from the No. 3 level. A considerable quantity of water is coming from this low level out of a cross reef which has been cut. The mine when inspected was in good order, and two men are at present employed.

New Zealand Jubilee Mine.—This mine had five men employed for the greater part of the year, the operations being chiefly confined to prospecting at the low level; but as nothing important or of a payable nature had been discovered, all work is to be stopped for the present.

KARANGAHAKE.

Talisman Consolidated (Limited).—The work in this company's mine has been directed to driving and stoping between Nos. 8 and 13 levels. The No. 10 level south has been extended to a point 2,106 ft. from the main underlie shaft, which has proved the Dubbo rich ore-shoot continues to carry payable values down to this level. On No. 11 level in the Bonanza section a branch reef has been driven on for a distance of 300 ft., which has proved highly payable, and rising and sinking on this reef confirms the results found in driving, therefore this work has opened up large blocks of remunerative ore. At No. 12 level the south drive reached the rich ore-shoot in the Bonanza section of the mine early in

the year, where it was found that the high values found in Nos. 10 and 11 levels were fully maintained at this level; in consequence, a large reserve of payable ore has been opened up. The No. 13 level was pushed ahead during the first part of the year; but owing to a larger quantity of water being met with than the pumping machinery could cope with, this drive had to be stopped until additional power was procured, which has now been done by a new Ingersoll Sergeant compound air-compressor having been installed at the Woodstock Battery to meet the requirement, and has done so admirably. The water was at once pumped out and the extension of the drive resumed. The country at this level has been more broken than at the other levels above, but no doubt as the work proceeds the country will improve. The following figures will show the development-work done during the year: Driving, 3,025 ft.; rising, 1,241 ft.; sinking winzes on reef, 302 ft.; crosscutting, 1,352 ft. This company is to be congratulated on the success met with during the year, having treated 49,573 tons of ore for £152,011, which, after all expenses were paid, enabled the directors to pay to the shareholders the handsome sum of £60,000 in dividends. An average of 275 men were employed.

New Zealand Crown Mines (Limited).—During the year the development-work undertaken at the mines consisted of the sinking of the main incline shaft, and a contract was let for sinking another 100 ft., and when completed the shaft will be 600 ft. below the Waitawheta tunnel level. This shaft is sunk in the foot-wall of the reefs, and at each level a crosscut has to be driven to intersect the lode. The shaft was sunk on the reef to a considerable depth, but as the reef took a different underlie it was deemed advisable not to follow it with the shaft, but to continue on the same grade as it had been carried down to No. 4 level, and in consequence the reef is a few feet in the hanging of the winze at the bottom. This with the sinking of the shaft is in a measure hindering the opening-up of the mine, as the development-work (sinking, &c.) on the reef is ahead of the shaft, which must add considerably to the cost of the ore produced. The work of opening up the mine on the reefs has been vigorously pushed on, and a contract has been let to sink a winze on the reef 240 ft. below the No. 5 level (No. 5 level is at present the deepest level). In this section of the mine at No. 4 level the reef has been driven on for some length, and the width of the reef and its values ascertained. Towards the end of the year an important discovery was made in the cutting of a reef in the southern extension of No. 5 level, which has proved to be over 5 ft. wide and highly payable. This is supposed to be the old Welcome reef worked on at and above No. 4 level, but enough work has not been done to prove this definitely. The New reef section (above the Waitawheta level): The No. 1 rise has been extended in the reef to a height of 475 ft.; the reef is only 1 ft. wide, with a value of £1 9s. 4d. per ton. No. 1 level has been driven north and south of the No. 1 rise, making a total length on the line of reef of 723 ft., with an average width of about 2 ft. and a value of £1 10s. per ton. Early in the year some difficulty was experienced in getting sufficient ore from the mine to keep the mill going full time, but in the upper levels a little prospecting was done, with the result that several small ore-bodies were discovered of good values, and this with the ore from the other parts of the mine has kept the mill fully employed. The company's water-race on the Ohinemuri River has for some time been leaking and in much need of repairs. During the year a new bridge at the junction of the Ohinemuri and Waitawheta Rivers has been erected to carry the race over; this is a good piece of work, and when the race along the banks of the Ohinemuri River, recently destroyed by the heavy floods, is restored and other sections repaired, the water-supply from this race will be available for use at the company's mill. During the year 22,000 tons of ore was treated for a return of £40,735. An average of 142 men were employed. The mine when last inspected was in good order.

Comstock United Gold-mining Company.—In the early part of the year a company was formed to raise capital to carry on further development-work, and to enable this to be done a larger supply of fresh air had to be forced into the face of the low level, and to do this a small dam was constructed some distance up the small creek adjacent to the mine, and from the dam water-pipes were laid down to the mouth of the level, which conveys sufficient water to be used for a water-blast to force the quantity of air required through an 8 in. galvanised pipe, there being now abundance of air in the drive. The work carried on is chiefly development-work, and although it is said several reefs have been met carrying gold, yet no large parcels of ore have been treated at the mill, and as the mine has been working for a number of years it is reasonable to expect some of the ore should be treated to prove its value. An average of seven men were employed.

TE AROHA DISTRICT.

Hardy's Mines (Limited).—This company has done very little work during the year in the shape of development. The mine was protected for six months, and any work done by the six men employed was directed to breaking out what was considered payable ore that was in sight, amounting to 651 tons, which, when treated, gave a value of £532 11s. 9d., and this, together with the concentrates from 139 tons shipped to England, gave a total value of £1,859 7s. 6d. The bullion returns obtained from the quartz treated and the quantity obtained has proved very disappointing to the shareholders of the present company, which they were led to believe would be a payable concern if only a limited amount of capital was expended in opening up the mine.

KOMATA DISTRICT.

Komata Reefs Mine.—The chief work carried out during the year was driving north on No. 2 reef at No. 8 level, but this did not open out as well as expected, being small and of little value. A cross-cut was driven at No. 8 level from No. 2 reef to intersect No. 1 reef; this was also disappointing, as the quartz treated proved to be of little value. A quartz pass has been completed from No. 8 to No. 4 level, which was much required to give better facilities for passing the quartz down and saving handling. The No. 2 reef at No. 4 level was driven on for some considerable distance, the quartz obtained from here in places being highly payable, but in places there were blanks where it was rather poor.

The No. 1 reef at this level varied from 10 ft. to 14 ft. in width and produced good payable ore. In driving north on Nos. 1 and 2 reefs at No. 3 level the reefs maintained their usual thickness, from which a considerable quantity of payable ore was obtained. Stopping operations were carried on over the back of the levels named on the Nos. 1 and 2 reefs, and from here the greater bulk of quartz treated was obtained. Further additions have been made to the crushing plant so as to bring its capacity to 100 tons per day. The additions consist of a 16 ft. by 4 ft. tube mill, four new tall slime air agitation tanks, and a Tangye 14½ in. by 28 in. horizontal engine. The company's operations from a financial point of view were not as successful as the preceding year, but this can be accounted for by the cost of additions to the plant and minor details, also the country rock at the No. 8 level is much harder than at the upper levels; this means increased cost in the production of the ore. 20,490 tons of 2,000 lb. was treated for a value of £45,448 9s. 8d., and an average of 160 men were employed.

HIKUTAIA DISTRICT.

New Maratoto Mine.—During the year very little active mining was carried on, the work consisting chiefly of prospecting, hence no quartz was treated by the battery. In the early part of the year the company bought the Waitekauri Extended battery of forty stamps, with cyanide plant attached, deeming the old battery too light and small to treat the ore satisfactorily. An aerial tram has been erected to convey the quartz from the mine to the new mill, a distance of 60 chains. During the coming year it is the company's intention to carry on operations on a large scale by working both the Maratoto and Payrock reefs, and by this means endeavour to place the mine on the list as a dividend-payer. Six men were employed.

Silver Stream Mine.—This mine, which comprises 100 acres, was worked by two men, Young and Booth, who stoped out a leader on the side of the branch creek above the Waitekauri Extended mill. The quartz was of unusual quality, and different from other lodes in the district (carrying silver mostly). A quantity was shipped and treated in England for a value of £103.

OMAHU DISTRICT.

Omahu Mines (Limited).—When the ten-stamp mill with cyanide plant, which were in the course of erection in the latter end of the previous year, were completed, crushing operations were commenced, but proved very disappointing to the shareholders, as by the assay tests they were led to believe it would be a payable concern. After treating 758 tons of the ore for a value of £442 8s. 8d.—an unremunerative return—the mine and plant were closed down. Twelve men were employed in the early part of the year.

PURIRI DISTRICT.

Miners' Right Claim.—This claim comprises 60 acres, and is held by John McInnes and was worked by two men. During the year the work was directed to the various small veins that outcrop on the side of the hill above the Hit or Miss battery, from which 23 tons was treated for a return of 64 oz. 14 dwt. of gold; value, £174 8s. 8d.

Champion Mines (Limited).—This property comprises 205 acres, and is situated on the face of the hill about three miles above the Miners' Right claim. The work during the year was confined to prospecting and driving what is termed a low level to intersect the reef about 100 ft. lower than where it was driven through in the upper levels. Should it be found to be as good as in several other places tried, the company intends erecting a small crushing plant to treat the ore, which will be conveyed from the mine to the mill over an aerial tram-line. The construction of the county road leading to the proposed battery-site is well advanced, but no preparations are yet being made as to the excavation of a battery-site; this is to be regretted, as the machinery should be got on the ground during the dry season. Six men were employed.

KERIKERI.

Kerikeri Mine.—The operations in the mine have been confined to driving and stoping at the low level. The drive on the Horse-shoe reef has been driven for a distance of 400 ft., carrying gold, its average width being 14 in. The leading stope over the level has been carried along 46 ft., and the second stope has been advanced 12 ft. The width of the reef here is about 2 ft., gold being freely seen in the quartz in breaking it down, and 5 lb. of picked stone was selected. The country rock on each side of the reef is all that could be desired for gold, and the manager is hopeful of making the mine a payable concern, the greatest drawback being the shortness of water during the dry weather, there not being sufficient for the mill. A five-stamp battery with two berdans, together with other necessary appliances for the treatment of free milling ore, have been erected. Two wire tram-lines have been constructed to convey the ore from the mine to the mill; one is 1,525 ft. in length and the other 870 ft. There are no returns yet to hand. Six men employed.

EAST COAST MINES.

Auckland (Mananu).—This mine was considered to be what is termed "worked out" by a former company; therefore it is pleasing to see that by the changes in the management the present company has been able to obtain sufficient gold to pay all expenses incurred in breaking and the treatment of the ore, besides doing a considerable amount of prospecting and opening up new ground at the lower levels. 1,545 tons of ore was treated during the year for a value of £5,230 7s. 4d. Six men were employed.

Waimangu Mine.—A good deal of prospecting was done in opening up the reef in this mine, but as sufficient gold was not obtained to warrant the erection of a battery it was decided to cease operations and wind up the company, which is being carried out.

Taihoa (late Chelmsford Gold-mining Company).—Mining operations on this property were resumed in June, and consisted in prospecting on the surface and underground. Several trial crosscuts, drives, and winzes were put in, and the low level repaired and extended 115 ft. The results so far have been considered satisfactory, and a contract is to be let to rise from the low level to connect with a winze sunk from the level above the distance being risen, approximately 150 ft. Two men were employed.

Golden Belt.—A large amount of work has been done on what is termed the main reef above the low level, and some of the reef was stoped out between the level named and No. 2 (or road level); but as the ore from here proved disappointing, operations were directed towards opening up the reef at No. 2 level, which was extended with favourable results, and a large block of ground over these levels is being stoped out. The forty-stamp mill has not been kept fully employed, but when the mine is further opened up it is expected that sufficient quartz will be obtained to keep the mill crushing. 2,466 tons of ore was treated, valued at £5,590 9s. 6d. An average of twenty-four men were employed.

Tairua Broken Hills.—The company's attention in the early part of the year was directed to driving and stoping on the Blucher, Night, and Punon reefs, both above and below the main-adit level, where a large amount of high-grade ore was obtained. But when the payable ore on those reefs became exhausted it was found necessary to extend the drives on the reefs at the adit level, and crosscut into the foot-wall of those lodes to make new discoveries. In so doing an important find, I am informed, was made in the shape of a new reef, which it is considered will be highly payable, as good assays have been obtained from the quartz tried from the reef as the drive has been advanced on it; therefore the prospects of the mine are more encouraging than they have been for some time past. 2,571 tons of ore was treated, yielding gold to the value of £7,603 4s. 2d. An average of forty men were employed.

Coronation Claim.—The operations in this mine were confined to driving a low level from the bed of the Tairua River under a low-lying piece of land. The drive was put in over 200 ft., but as nothing was met with to induce the shareholders to proceed further with the drive it was stopped. Two men were employed.

Tairua Triumph (late Taniwha).—This ground has again been taken up and work commenced in the mine. In the latter part of the year a crushing of 1 ton was treated for 25 oz. 10 dwt.; value, £70 15s. 3d. The present owners are sanguine that it will, when further opened up, be a payable concern.

GUMTOWN.

Kapowai and Golden Reefs Mines.—Prospecting operations were carried on steadily with two men in the Golden Reefs section of the mine. In one of the drives a body of ore was met with carrying gold, and energetic prospecting was pushed on in the Kapowai section, which was owned by Mr. O'Connor; but latterly an Auckland syndicate purchased this mine, amalgamating the two, and forming them into a company now known as the Kapowai Gold-mining Company. The company is now confining the operations to the Kapowai section by driving a new low level, which will give 130 ft. of backs from this level to the one above. The other levels which were in progress at the time of the formation of the company are also to be pushed ahead, with the intention of prospecting and opening up the mine. 700 tons of ore was treated from the Kapowai section for a value of £1,125 5s. 3d. Twelve men were employed.

THAMES DISTRICT.

Waiotahi Mine.—During the past twelve months the operations in this mine have been directed to driving and stoping on the main, the foot-wall, and Cure reefs, all of which produced very rich ore. Vigorous prospecting was carried on in the shape of driving on any leader or body of quartz met with, whether gold was seen or not, and crosscuts were driven into the walls of the reefs at the different levels with a view to making fresh discoveries, and met with a fair amount of success. At No. 6 level all the reefs mentioned have been driven on for a considerable distance, and large payable blocks of ground opened up ready for stoping. At No. 5 level similar work is being done as that at No. 6 level, but in the stopes between this level and No. 4 level a large quantity of very rich ore has been obtained, which has been the means of greatly increasing the output of gold. At No. 4 level a fair amount of driving has been done from the stopes. Over the back of this level a large quantity of payable ore was produced. The Mary Ann shaft has been sunk from No. 4 to No. 6 level, and connections made with the various workings put in from the main shaft. When this connection was made it gave good ventilation, also better facilities for handling the quartz and trucking it direct from here to the company's mill. Additions have been made to the crushing plant. A cyanide plant has been erected, consisting of four vats and agitators for the treatment of the slimes, which are doing excellent work. An average extraction of 95 per cent. is said to have been obtained, and more vats are being erected. The Old Waiotahi battery has been thoroughly overhauled by taking out the old bed-logs and uprights and replacing them with new ones, thereby making an important improvement. The prospects of the company continue to be exceedingly encouraging, and shareholders are looking forward to dividends being paid for some considerable time to come. 18,002 tons of ore was treated at the company's mills for the excellent return of 82,640 oz. of gold, for a value of £223,678 4s. 3d., of which £180,000 was paid in dividends to the shareholders. An average of 155 men were employed.

Kuranui-Caledonian Mine.—Work has principally been confined to testing the Cambria Nos. 4 and 6 Cure reefs; the former has now been proved to be identical with what is known in the adjoining mine as the "Waiotahi main reef," and from which splendid results are still being obtained. A considerable amount of work has been done by means of driving, rising, and sinking, and although at different points this quartz contained a very favourable class of mineral, amongst which strong colours of coarse gold could be seen, this especially applies to a drive driven from the bottom of a winze sunk to a depth of 50 ft. below No. 4 level, which is the lowest level, and would represent a depth of 450 ft.

below the collar of the Old Pump shaft. On the Cure No. 4 a distance of 300 ft. was driven, but the reef was very irregular and the country disturbed, consequently no gold was seen; however, in the Cure No. 6 reef, in a winze sunk on the boundary, gold was carried down to a depth of 75 ft., also in a drive driven from the bottom of this winze for a distance of 80 ft. This is just about the depth the pump is draining this mine, therefore sinking could not be continued. The quartz won from this lode yielded $4\frac{1}{2}$ oz. to the load. A drive has also been recently started on the Specimen leader between Nos. 2 and 3 levels, underneath the point where the famous Caledonian patch was discovered in 1871; so far the indications met with are of a favourable character. From the above it will be seen the best results have been obtained from the winzes sunk below. Under this level it is all virgin ground; consequently the directors are most anxious to try the lower levels, for which purpose they are conserving the funds, only sufficient men being employed to comply with the labour conditions as set down in the Mining Act. During the year 37 tons of quartz was treated, for a yield of 139 oz. 12 dwt., valued at £401 7s., whilst an average of sixteen men were employed.

Moanataiari.—The work carried on in this mine during the past year has been solely of a prospecting character. The main drive or south crosscut at the 400 ft. level was continued, and is now in a distance of 700 ft. from the foot-wall of the Cambria reef, and a total distance of 1,640 ft. from the main winding shaft. The country passed through is all mild sandstone, but no solid quartz of any kind was intersected. The crosscut will probably be further extended, with the hope of meeting the eastern continuation of the lode system from the Waiotahi and Victoria Mines. A winze on the Cambria reef was sunk to a depth of 100 ft. below No. 3 level; in this work it was hoped the downward continuation of the rich mineral ore-shoot worked so successfully on and below the level would be picked up. So far nothing of importance has been found, although gold has been seen in the solid stone, and from small veins of quartz on the hanging-wall a few pounds of picked stone has been secured, showing the existence of the precious metal even at this depth, 750 ft. below the surface. Direct communication has been obtained through the upper workings with the Cambria shaft, thus securing thorough ventilation for the further development of that section of the mine when capital is obtained. There has been no ore treated by the company during the year, but the tributers have mined and crushed $43\frac{1}{2}$ tons for the return of 86 oz. 3 dwt.; value, £233 18s. 4d. During the year twelve men were employed.

Old Alburnia.—The work in this mine has been confined to extending the Moanataiari main tunnel, and a distance of 680 ft. has been driven, making the total distance from the starting-point driven by the present company 2,107 ft. During the year a reef 4 ft. in thickness was intersected and driven on 16 ft. on the right-hand side of the tunnel, but it proved to be of very low value and work was discontinued on it. Two other small formations of quartz and clay mixed were passed through, but nothing of any importance has been discovered yet. The tunnel is still being continued in the same direction with a view to intersecting the Alburnia and other reefs that traverse through this part of the property, and from which a large amount of gold was obtained in the upper levels. The company treated for the year $134\frac{1}{2}$ tons, for a yield of 350 oz., valued at £899 3s. 5d. The average number of men employed during the year was ten wages-men and fifteen tributers.

Kuranui Mine.—The principal operations carried out in this mine during the past year have been the connecting of the top workings with the battery through the Teutonic level and testing some of the reefs east of the main slide, also prospecting some of the leaders at the battery-level. So far the results of the crushings taken from the reefs east of the slide have not proved payable, although a good deal of fine gold was seen in the stone when breaking it out, yet assays made of the ore when going through the mill proved that there is very little weight or value in this fine showy gold. Latterly the operations have been confined to prospecting at the battery-level on what is known as Barry's leader, but so far no payable ore has come to hand, although the leader looks promising in places and is in a very good channel of country. The other work in hand is prospecting a leader north-east of the Shotover shaft, not far from where Hunt and party obtained their rich patch of gold. The company has now got the battery in working-order and is trying some of the old stopes and surface dirt, as some of these old stopes have proved payable in the past. Summary of work done during the year: Total distance driven on leaders and reefs, 275 ft.; crosscutting, 278 ft.; rising and sinking, 214 ft.; and about 70 fathoms of stoping. The company treated for the year 140 tons 2 qr. 4 lb. of ore, for a yield of 32 oz. 16 dwt.; value, £87 3s. 9d.

Victoria Mine.—The principal work done during the year has been the extension of the crosscut at No. 4 level for the purpose of intersecting the various reefs worked with such great success in the Waiotahi Company's mine at the levels above, but unfortunately for this company no reefs of a payable character have been met with in this drive, which was driven a total distance of 1,100 ft. from what was formerly known as the Prince Imperial shaft. Driving and rising were carried on on Nos. 1, 2, 5, 6 reefs without success, and development-work is still proceeding with a view to finding a new shoot of payable ore, the work at present being chiefly confined to the No. 1 reef at No. 4 level. Communication was effected with this No. 4 level and the No. 3 level in the Tookey shaft, which has given excellent ventilation and also made an outlet should it be required. At No. 3 level stoping was done on the Victoria reef west of the crosscut, but after a considerable amount of work had been done nothing payable was found and operations at this part were suspended. In stoping on the No. 1 Victoria reef above and below the intermediate level a fair amount of highly payable quartz was obtained. A total of 175 tons of quartz was treated for 252 oz. 12 dwt. of gold; value, £706 6s. 8d. An average of thirteen men were employed.

Thames Gold-mining Company (formerly Fame and Fortune and Nonpareil).—The operations in this company's mine were first directed to opening the various reefs and leaders from the Moanataiari main tunnel. Some years ago a crosscut drive was put in 300 ft. from the tunnel towards the Nonpareil, where a large reef was intersected, and the first work after taking over the above-named mines

was driving east and west from the cross-cut on the large reef for a distance of 200 ft., but as the quartz was low-grade ore, with no appearance of improvement, work here was discontinued. A start was then made to open out and drive on a leader 90 ft. west of the big reef, which was driven on 52 ft. north and 126 ft. south, also a rise was put up on it to a height of 73 ft., and for the first 50 ft. the prospects met with were most encouraging, as some rich assays were obtained from the stone broken out here from day to day; but in stoping out the block from this rise the rich ore as met with in the rise could not be found. This proved very disappointing, and as the quartz broken out was not of a payable character the work here was suspended. The extension of crosscut towards the Nonpareil section was then started, and has now been driven a total distance of 289 ft., and nothing yet of importance has been discovered. During the year 230 tons of material was operated on, yielding 69 oz. 9 dwt., for a value of £203 12s. Fourteen men were employed.

New Saxon.—The work in this company's mine has been chiefly directed to the Cardigan section of the mine, where two winzes were sunk on the No. 1 reef from No. 4 level to a depth of 40 ft., where drives were put in on the reef named; then the reef was stoped out from those drives up to No. 4 level. The ore obtained from those blocks was high-grade ore, but the quantity was only very limited; 295½ tons was treated for 406 oz. 12 dwt.; value, £1,185 9s. There is a block of ground on this reef over the back of No. 4 level which is said to be intact up to No. 2 level, and this is now being operated on with a fair amount of success. The company contemplates directing development operations to the deep levels with a view to proving and opening up the untried ground, which, in the event of payable gold being found, will considerably enhance the value of their property. An average of nine men were employed.

New May Queen.—During the year work has been principally confined to opening up the No. 6 level on No. 4 lode, north-west lode, and a branch leader in the foot-wall of No. 4 lode, and stoping on the same. The No. 4 lode has been driven upon for a distance of about 356 ft., and has averaged a width of from 12 in. to 18 in., the quartz being of good grade, and frequently yielded picked stone. Stoping is proceeding in this block, and a height of about 65 ft. has now been worked out. The north-west lode has been driven upon for about 175 ft., and a block of about 25 ft. high has been stoped out upon it, the lode averaging in width from 3 ft. to 7 ft. It is a well-defined body of quartz, and frequently shows strong colours of gold. The branch leader striking into the foot-wall of No. 4 lode has been driven upon for about 150 ft. The leader varies in width from 4 in. to 8 in., and frequently yields some very good picked stone. The block on this leader is stoped out to a height of about 50 ft. As far as the company has gone the richest ore was obtained from the drive and leading stope. From the first crushing of 156 loads of general quartz and 200 lb. of picked stone from No. 4 lode a return of over £1,800 was obtained: this looks well for the bottom blocks. Prospecting has also been carried on at No. 5 level. A crosscut has been put in for a distance of about 330 ft. for the purpose of intersecting the St. Hippo lode and other lodes that are now being worked by the Southern Queen Company. The distance yet to drive to reach the St. Hippo lode will be about 220 ft., and the vertical height to the surface about 600 ft. The prospects of the gold continuing down are most encouraging, as the gold obtained at the present low level in the company's mine is the deepest payable gold that has yet been found in the mines in this part of the goldfield. This has given renewed confidence, which is to be hoped will encourage the various parties interested in and around the Grahamstown Flat to exert their utmost influence in promoting some scheme for the development of the deep levels, which in all likelihood may prove advantageous to all the companies concerned. During the year 3,333 tons 9 cwt. 6 lb. of material was treated for a return of 3,769 oz. 7 dwt.; value, £10,715 0s. 2d. The average number of men employed was thirty-nine.

Vanguard Gold-mining Company.—In taking over the Deep Sinker machinery, shaft, and drive a large expense was necessarily incurred in putting the machinery, shaft, &c., in a fit state of repair to enable the work of extending the drive at the low level to be carried out. When the water was baled out to the low level the north drive was cleaned out and repaired, and a tram-line laid in for a distance of 1,310 ft., and from the face of this drive a contract was let to extend the crosscut, which was driven a distance of 800 ft., or a total distance of 2,110 ft. from the shaft. Several leaders were cut through, varying from 6 in. to 10 ft., and some of the quartz carried excellent mineral, but no gold was seen in breaking it out. The Moanataiari main slide was cut at the end of the 800 ft. in the drive mentioned, where a heavy flow of water burst in. After pumping and baling for a time it was found that the water was more than the engine could cope with, and all work had to be abandoned in this part of the mine for the time being. The company then decided to sink a shaft on the northern end of their property, alongside the Karaka Road, and when this shaft attained a depth of 40 ft. water was met with, and to cope with it the winding-engine, &c., of the Eclipse Company's mine was purchased, and is now being erected. An average of nine men were employed.

Trafalgar Mine.—During the year all operations in this mine were confined to the development of the reefs discovered on the surface in the early part of the year. A level was put in to intersect the ore-body known as the Shamrock reef at a vertical depth of 90 ft. from the outcrop, and the reef where met with at a distance of 120 ft. from the mouth of the tunnel proved to be a well-defined body of quartz, varying from 3 ft. to 5 ft. in width, the stone being well mineralised, and showed nice blotches of coarse gold occasionally. After driving about 50 ft. on the eastern trend of the reef some very fair ore was met with, and, as it appeared to improve towards the floor of the level, it was decided to test its value downwards by sinking a winze on its underlie. This work was carried on till a depth of 30 ft. was attained, when a heavy influx of water was met with, and operations had to be suspended. Since ceasing operations in the above-mentioned winze, a low level has been put in at a further depth of 132 ft. vertical from the named level, and a reef about 2 ft. in width followed along its course for a distance of 200 ft., when a deviation from the mouth of the level was made to the eastward with the object of inter-

secting the reef carried down in the winze, and after driving a further distance of 120 ft. the reef was met with, and has up to the present time been driven on for a distance of 30 ft. The reef at this level maintained its width, being in the face at the present time fully 5 ft. wide, and although no gold has been seen in the quartz at this point yet it looks promising. A crosscut has recently been put in at the low level to open up a block of ground on the Empire lode, and has been cut at a depth of 50 ft. below its outcrop, and being driven on its course to get to a point directly under the place where assays from £4 to £9 were obtained. The reef in the face of the level at the present time is a compact body of solid quartz, about 2 ft. in width, the stone being highly mineralised, and looking very promising. An average of five men were employed during the year.

New Una.—In the early part of the year operations were confined to the Loyalty, German, and McKenzie's leaders at the low level, from which 123 tons of quartz was treated for 21 oz. 5 dwt. of gold; value, £58 14s. As this was not sufficient to pay, work here was abandoned for the time being. The company then directed its attention to driving a surface level to intersect what is known as the Duke's reef, which was worked in former years with satisfactory results. This drive is now in 270 ft., and another 230 ft. of driving, it is said, will reach the reef. There are other reefs in which payable gold was obtained on the outcrop; these will be met with as the drive proceeds. An average of four men were employed.

New May Queen Extended.—As the work on the various leaders above the main adit did not prove payable, operations were directed to opening up the mine at the 100 ft. level of the company's shaft, and as the water had to be contended with here, an oil-engine was purchased, and erected in a chamber in the adit level at the shaft. The engine is capable of meeting the requirements of both pumping and winding. The shaft and No. 1 level being in a bad state of repair cost a considerable sum of money to put them in working-order, and in consequence little has yet been done on the reefs formerly worked, in which, it is said, good results were obtained. The shareholders are sanguine that payable gold will be met with to pay for the outlay. An average of seven men were employed.

New Dart.—The works in this company's mine have been chiefly confined to the extension of the adit low level, which is now connected with the old workings formerly worked from what is known as the Dart shaft. As the water has now been drained off to this level, the operations are now directed to repairing the drives, with a view to opening up the leaders and reefs that are said to contain payable gold. The tributers crushed 3 tons of quartz for 14 oz. 15 dwt. of gold; value, £41 6s. An average of seven men were employed.

Occidental.—Work in this mine is directed to driving an intermediate level above the main-adit level, with the object of cutting the reef successfully worked by a previous company from the low level. The country rock passed through in this drive has been of a very hard nature, and consequently the progress made has been slow. During the year four men were employed.

Lord Nelson and North Star.—The work in this mine has not been confined to any particular leader, but to breaking out quartz from the various reefs on the outcrops which traverse the property, and, considering the quantity of ore treated, the results should be highly satisfactory. Thirty loads were treated for a yield of 76 oz. 17 dwt. of gold; value, £212 11s. 3d. Two men were employed.

Summer Hill Claim.—This party has done a considerable amount of work in the shape of driving and stoping on small leaders, and has met with a fair amount of success. Although the quantity of ore treated is small, yet 1 cwt. 1 qr. 11 lb. treated gave a return of 89 oz. 7 dwt. of gold; value, £213 4s. 8d. For the year two men were employed.

Daisy Mine.—This is a portion of what was formerly the Anchor Mine. The work during the year was directed to driving a crosscut to intersect a leader that was worked with success in the upper levels. When the leader was met with in the drive, good specimens were obtained, which correspond with the rich shoot of ore worked in the levels above. The backs over this level are limited, but the gold obtained has paid handsomely for the amount of work done in opening up the mine. 2 cwt. 1 qr. 10 lb. of stone yielded 132 oz. 12 dwt. of gold, for a value of £318 4s. 8d. During the year an average of two men were employed.

Weymouth.—This is a claim which has been held by Wallis Bros. for a number of years, who have continued working on some of the small leaders on the surface level, and at times with a fair amount of success. During the past year 49 lb. of specimen stone was treated for 32 oz. 12 dwt. of gold; value, £76 16s. 8d. Two men employed.

Reliance.—This is a claim lately taken up, and from which a ton of ore was treated for a yield of 11 oz. 5 dwt. of gold, for a value of £25 11s. 10d.

Claremont.—This is a claim of one man's ground held by George Bryant for a number of years. When last inspected there were no indications to show that any work had been done on the mine for some considerable time past, yet by the returns from his crushing plant 3 cwt. 14 lb. of stone had been treated from his claim for the large yield of 367 oz. 9 dwt. of gold, for a value of £987 2s. One man was employed.

Arrindell.—This mine is held by an English syndicate, who have expended a large amount of money in the development of the property and the erection of a crushing plant. It is to be regretted that they have met with little encouragement. 13 tons 10 cwt. of ore was treated during the year for the return of 12 oz. 10 dwt. of gold; value, £36 10s. 6d. Four men were employed.

Southern Queen.—This mine is situated on the Collarbone Spur, and formerly known as the Karaka Mines. The present company has opened up the mine from the levels put in from the side of the hill by previous companies and has met with a fair amount of success. The operations have been chiefly confined to driving and stoping on the Blue reef and small leaders striking into the hanging-wall, from which forty-seven loads of quartz were broken out and treated for 118 oz. 14 dwt. of gold, for a value of £325 12s. 3d. The company contemplates extending the Atlantic low level for the purpose of open-

ing up the block of ground under the present workings, and should this prove as good as anticipated it will considerably enhance the value of the property. Six men were employed.

Highlander.—This mine has only been worked for a short time, the owner's attention being directed to fossicking on small leaders on the surface, and judging by the returns obtained he has met with good results, having treated 68 lb. of stone for 22 oz. 14 dwt. of gold; value, £54 9s. 7d.

Ballarat.—This claim is owned by Mr. Britt, who has held it for a number of years. The claim was under protection for six months, and, unfortunately, the owner found very little gold during the other six months of the year. Seven loads were treated for a yield of 10 oz. 7 dwt.; value, £29 3s. 9d.

West Coast.—There is little new to report from this mine, the work being confined to trying small leaders cut through in the intermediate level. 10 tons yielded 8 oz. 12 dwt. of gold; value, £21 10s.

Golden Drop.—This mine has been worked by one man, who extended a low level to intersect a leader worked in the upper levels with payable results, but after driving on it for some distance he did not succeed in finding sufficient gold to pay him for the outlay incurred in opening up this level. 3 tons was broken out and treated for 7 oz. of gold; value, £18 11s.

Moanataiari Extended.—Since commencing operations a distance of 300 ft. has been driven on what is known as the Moanataiari Cross reef from the Point Russell level, and, although favourable indications were met with, nothing of a payable character was disclosed. A crosscut was then driven for a distance of 660 ft. through very tight country for the purpose of testing a large reef worked in the upper levels with satisfactory results; when this lode was intersected the quartz had a very promising appearance, but after driving 70 ft. upon it very hard ground was again encountered, and the ventilation being unfit for men to work in, it was decided to try a large reef found outcropping on the surface. Up to date, a distance of 258 ft. has been opened up, and this lode will average fully 10 ft. thick. From time to time strong colours of gold have been seen in the quartz, and as this reef is heading to where a considerable amount of gold was taken out in the early days of this goldfield, there is every reason to believe that a payable block of ground will be opened up in the drive now being extended in this direction. During the year the average number of men employed was four.

Mascotte Mine, Otanui.—The owners of this mine erected an oil-engine to pump the water and hoist the stuff out of the shaft, which has been enlarged down to a depth of 50 ft., and from the depth named the shaft is being sunk a further depth of 50 ft., where another level is to be opened out. The prospects met with in sinking have been encouraging, as the country is all that can be desired. A little gold was obtained in one of the leaders cut through in sinking. An average of three men were employed.

Day Dawn and Norfolk Mines (Limited), Tararu Creek.—There has been very little work done in this mine during the year; it has lately been reconstructed, and the name changed in the early part of the year. 182 tons 20 lb. of ore was treated for 76 oz. 5 dwt. of gold; value, £170 14s. 8d. An average of four men were employed.

New Eclipse.—Very little work was done on this mine during the past year. A party of tributers worked it for a time, and after treating a parcel of 2 tons for 1 oz. 3 dwt. of gold, valued at £3 2s. 1d., operations were stopped, as this yield was not sufficient to encourage their proceeding further. Two men were employed.

Waitangi Mine, Shellback Creek.—The first work undertaken was directed to extending the No. 2 level on the reef for a distance of 180 ft.; a crosscut was then driven through the reef to the foot-wall, where it was found to be 24 ft. in width. The prospects met with are said to have exceeded the most sanguine expectations of the company; consequently this drive on the reef, which was very crooked, was straightened, and a low level commenced with the object of cutting the reef, which will give 125 ft. of backs to the No. 2 level. The low level will be connected with No. 2 level by a winze, where the quartz will be put down and trucked direct to the hopper at the road-level, and from here the quartz will be carted to the battery. A level to be known as No. 3 level has been commenced 100 ft. above No. 2 level, and from here to the surface there will be 120 ft. of backs on the reef. Samples of ore assayed from the reef as it was driven on at No. 2 level have, I am informed, given assay values of about £3 per ton, which is considered will pay handsomely when the mine is opened up. Six men were employed.

Sylvia.—This company has continuously carried on operations during the year. In the early part work was directed to driving on the reef from a winze immediately under the rich shoot of ore worked by a former company. The prospects met with were most encouraging; but as all the stuff had to be hoisted out of the winze and trucked about 1,000 ft., and water had also to be contended with, the company decided to drive a low level, which will give 100 ft. of backs on the reef. This drive was in a distance of 300 ft. at the end of the year. Six men were employed.

The Bonanza and Watchman have lately been formed into companies to work the ground in the neighbourhood of the Waitangi, but the amount of work done on these mines at the end of the year was very limited.

Monowai Mine, Waiomo.—The company's operations have been confined to extending the low level on the course of the large reef for the purpose of prospecting or discovering any payable shoots of ore, also with a view to connecting with the winze sunk to a depth of 60 ft. on a rich run of ore by the previous company. This work has now been accomplished, and has opened up a block of ground of 180 ft. between the two levels, and as a rich run of ore passed through in the low level 800 ft. outside of the winze named, the prospects may be considered highly encouraging. The crushing plant has been thoroughly overhauled, and tenders called for the carting of 600 tons from the mine to the battery; should the ore when treated give anything like as high a percentage of bullion as that obtained by assays, a large number of men will be employed in the mine and mill, to the mutual benefit of the shareholders. Nine men were employed.

Waiotahi East, Karaka.—The principal work done in this mine was directed to extending the No. 2 level a distance of 240 ft. As the country passed through was of a favourable description, it was

fully expected that gold would be found in the reef in payable quantities, but this proved disappointing. Then a rise was put up on the reef to No. 1 level to a height of 35 ft., which gave excellent ventilation, but very little gold was seen in breaking out the quartz. There were also some stoping and driving done at No. 2 level, but as nothing of an encouraging nature was met with the mine was closed down at the end of the year. Two men were employed.

Magnet (Thames Talisman).—This company's operations have been directed to the extension of the low level, which is now in a total distance of 1,300 ft. This level is being put in for the purpose of intersecting the Grand Trunk and other reefs in which rich gold is said to have been obtained in some of the upper levels in the early days of the goldfield. Six men were employed.

Halcyon.—This company was formed for the purpose of working this ground, which has been lying idle for a number of years. The first work undertaken was that of repairing the low level driven from the level of the Karaka Creek, a distance of 350 ft., which has since been driven a distance of 50 ft., where the Halcyon reef was met with and driven on for 180 ft. The ventilation not being good, a winze was put down on the reef to a depth of 42 ft. to connect with the drive; unfortunately, it was found that the winze had been sunk to a point 140 ft. from the face of the drive, and before a connection could be made it was found necessary to put in pipes to drive the air in to enable this work to be completed. Gold has been frequently seen in breaking out the quartz in sinking and driving on the reef, and the manager is sanguine that a block of ground has been opened up which will pay to stope out. Four men were employed.

Mahara Royal.—In the early part of the year work was directed to stoping out a portion of the Royal reef over the back of the low level and driving on the course of the reef, and crosscuts were also put in with a view to discover shoots of payable ore hitherto unworked, but not meeting with encouraging prospects the mine was stopped for the present. 225 tons of ore was treated for 117 oz. 19 dwt., for a value of £288 2s. 1d.

COROMANDEL DISTRICT.

Old Hauraki Mine.—During the year the work in this mine has been principally done by tributaries; but, unfortunately, the returns have been low and discouraging. From 19 tons of ore treated, £334 10s. 9d. was obtained. In the early part of the year ten men were employed, but towards the close of the year only three men were at work. At the close of the previous year (1905) it appeared that the negotiations for the amalgamation of this claim and the Bunker's Hill Claim would be effected, and that the unwatering of the mines would be undertaken, and this would allow the deep levels to be opened and further prospecting done at a greater depth. But, unfortunately, the hoped-for amalgamation has not yet been arranged—most unfortunate for the district, for, whatever may be said to the contrary, the draining of the Old Hauraki Mine materially affects the whole group of mines, and unless some arrangement is come to amongst the claimholders for the drainage of the field, little can be done in any of the mines. For the year an average of eight men were employed.

New Bunker's Hill Mine.—For the past twelve months work consisted of driving and stoping in the adit level on the seaward side of the property, whilst the low level has been extended 284 ft., and a connection with the shaft workings effected, which has greatly improved the ventilation and assisted in the prospecting of the many small leaders intersected by the main level; but, although a great amount of work has been done on these quartz veins in rising and stoping, the results have been very unsatisfactory. The area of this claim is a little over 3 acres, so that surface prospecting is confined to this small area, and unless the mine is unwatered so as to allow prospecting at the low levels, I am afraid the future prospects are not any brighter than the year just closed. Four men were employed for the year.

Hauraki Freeholds Mine.—During the year application was made for protection, which was granted, and the mine absolutely closed down. Near the end of the year the surface section of the mine was thrown open to tributaries, and a small parcel of ore treated for a return of £29 9s. 6d. This company, like the Old Hauraki and Bunker's Hill Mines, are not able to do any work in their low levels owing to the influx of water, and until these mines are unwatered and the low levels developed, nothing of any value to the companies can be discovered; so, therefore, it will be seen that unless a combined effort is made by these mines, the further development of the industry in this district will be seriously hindered.

Success Mine.—The work done in this mine has been principally in the old workings—viz., timbering, &c. Some stoping has been done on James's east and west leaders, with the result that some good specimen-stone and loose gold were obtained. Stoping was also carried on on a leader known as Daldy's cross-leader, from which some fine specimen-stone and loose gold were secured. Owing to the mine being open to the surface, and with the exceptional heavy rains, a quantity of water came into the mine, and work had to be suspended in the mine for a time, and outside prospecting has been carried on. This mine has been worked for a number of years, and a great amount of general mining done. It is situated on the Tokatea Range, and adjacent to the Royal Oak and other mines which have been gold-producers, and it is hoped that ere long something will be discovered in the Success Mine to recompense the present owner for the time and money spent in prospecting and other work done. Two, and sometimes three, men are employed.

Golden Pah Mine.—At this mine the company has done absolutely nothing to further its development, and the future prospects of the mine are not encouraging. During the year the winding and pumping plant has been removed from the property, which may indicate that the company has no intention to do any development-work at the low levels for some time to come. On the surface some work has been done by tributaries on small quartz leaders, and the returns may be considered fairly satisfactory. From small parcels of ore treated a return of £308 11s. was obtained by the three men employed.

Kapanga Mine.—This mine, formerly owned by Hollis and Cornes, has during the year been formed into a company. Since the new company has acquired possession it has purchased a winding and pumping plant from the Golden Pah Mining Company. This plant has been erected at the Old Kapanga shaft, and a start made to unwater the mine. At present a pair of steam-driven pumps (Worthington, I believe) are being used. It is hoped that the company will succeed in unwatering the mine, so that the old mine levels to a depth of at least 400 ft. can be reopened and explored, with a view of working several blocks of ground believed to have been left in by the company, and which it is thought can be worked at a profit. This shaft is nearly 1,000 ft. deep, and it is said that beyond driving several levels below the No. 5 level the reefs were not thoroughly prospected. It is the intention of the new company to unwater the mine to its deepest levels and prove the value of the reefs at that depth. On the surface where the outcrop of the Kapanga and Scotty reefs occurs, and where some work was done years ago, thus allowing water to get into the mine, proving very troublesome, a fluming was put in to carry the water of a creek away, but this fluming having become defective the new company has driven a tunnel through a spur to divert the creek, and thereby save the mine from being flooded with water. It is hoped that the company's efforts to unwater the mine will be availing, and that the mine may become a dividend-payer in the near future. For the year 100 tons 17 lb. was treated, for a value of £166 16s., and an average of twelve men were employed.

New Tokatea Mine.—Early in the year work was mostly confined to putting in several drives on the eastern side of the range on the company's property to cut small quartz leaders known to exist and believed to be payable. In due course the leaders were cut and driven on, but, unfortunately, did not turn out as was expected. Attention was then directed to the western side of the range, and a drive put in and a quartz leader cut, from where some good specimen-stone was secured. But this also became poor, and towards the end of the year protection was sought, and on being granted the mine was closed down. 10 tons of ore was treated for a yield of 14 oz. 6 dwt., valued at £40 0s. 6d., and an average of ten men were employed.

Monte Christo Mine.—This mine is owned and worked by Mr. Magnus Kemner, and is situated near the Royal Oak Mine, Tokatea. Early in the year a low level was commenced to cut the Day Dawn reef, the Mines Department granting assistance, and at 111 ft. a new reef was cut and driven on for 70 ft. without meeting with payable ore. It is intended to extend the low level in order to cut the Day Dawn reef, which it is expected will be cut in another 40 ft. of driving, and it is hoped it will prove to be payable. A section of the claim was worked by tributers during the year, but proved unprofitable to them. Six men were employed for a time.

Royal Oak Mine.—The work in this mine has been carried on by tributers, who have been working on portions of the reefs left in by the company and on small leaders which were considered unpayable for the company to work. The tributers have won 43 tons of ore and 2,031 lb. of specimen-stone for a yield of 1,217 oz., valued at £3,223 2s. 3d., the value of gold per ounce being about £2 13s. In years gone by the company worked the mine on the wages principle, and then a great amount of prospecting and development work was done in the several levels. The No. 3 level, for instance, about six years ago, was extended, and several small leaders (quartz veins) were cut, but not thoroughly prospected, and it is thought that this level should be reopened and those leaders worked to prove their value, for although there are several well-defined reefs on this company's claim it must not be forgotten that from the small leaders some very rich stone has been won. Something like thirty-one men were employed during the year in tributating almost entirely on ground previously opened up. It cannot be expected that tributers are going to undertake the work of development of a mine, so therefore it is hoped that the company will put on men to further develop and open up the mine. In this is their only chance of successfully working a valuable property. For some time, especially in the summer months, the water-supply for driving the crushing plant has been defective, and I believe the company are about to erect an 8-horse power oil-engine to overcome the difficulty.

Four-in-Hand.—At the commencement of the year work was confined to the extension of the low crosscut. In March this drive drained the workings on the eastern side of the range, and in consequence the men were removed to the foot-wall reef, where sinking below the No. 4 level was taken in hand. In conjunction with this work a winze was also sunk upon the Four-in-Hand lode. The ore from this reef, where cut, proved to be unpayable, and, considering there were great difficulties to contend with in the working of this section, operations were suspended and the men moved to a block of ground on the Four-in-Hand reef above the No. 4 level. During the year a new reef was discovered on the surface further north than any of the company's workings, and from which some rich stone was obtained. From a parcel of 1 ton of ore and 37 lb. of selected stone £111 1s. 3d. was obtained, the result of a week's work for two men. During the year the company crushed 58 tons of ore for a return of £368 10s. 3d. An average of six men were employed.

Prospecting.—A considerable amount of prospecting-work has been done in this district during the year. In a number of cases the prospectors have received aid from the Mines Department to enable them to go out and prospect, but unfortunately nothing of an encouraging nature was found. The Big Reefs Prospecting Association at Coromandel got £50 to assist them in carrying on their prospecting in what is known as the Big Blow reef, on the western side of the Tokatea Range. This association has done a considerable amount of work on the Big Blow reef, but so far have not met with much encouragement, the ore being very low-grade and nothing like payable ore being met with.

KUAOTUNU DISTRICT.

Waitaia.—The work done in this mine consisted mostly in stoping, and in the early part of the year some 487 tons of ore was treated for a return of £2,417 6s. 3d. for twenty-one men employed. Early

in June the company made application for protection, which was granted on condition that the mine be thrown open for tributers. This was agreed to, and several parties of workmen secured blocks, which proved unprofitable, and all the tributers with the exception of one were surrendered. The company has kept two men at work in the mine for repairing, &c. For some time very little prospecting-work has been carried on, and now the company have to seriously consider the advisability of putting in a new low level to intersect the reefs at a depth. This will entail heavy expenditure, and necessitate the raising of more capital to carry on the work. It is believed that the reefs carry fair values in the floor of the present low level, and if the proposed new low level were constructed and the reef opened up the mine might be a profitable investment. It is hoped that something will be done to stimulate prospecting in this once busy mining district.

Handsworth Mine.—The work done in this mine during the year consisted of driving a low-level tunnel. Good progress has been made. Early in the year application was made to the Mines Department for assistance under the aid-to-prospectors clause. The assistance was granted, which will enable them to drive the level, and it is hoped that the reef when cut will prove payable. During the year 65 tons of tailings was treated for a return of £118 12s. 3d. Two men were employed.

Great Mercury Mine.—In this mine the present owners have spent much money in prospecting at the low level, and an application was made to the Mines Department for aid to prospect under section 39 of "The Mining Act Amendment Act, 1905," which was granted to assist them in continuing prospecting at the low level, but unfortunately nothing of an encouraging character has been met with. Two men were employed during the year.

Otama Mine.—The owners—O'Keefe and Ellings—have been at work in this mine for some time in stoping on a small leader, and from a parcel of 38 tons of ore crushed at the public battery a return of £63 16s. 9d. was secured. I understand that O'Keefe has surrendered his interest and that the mine is now owned and worked by William Ellings.

GREAT BARRIER ISLAND.

Barrier Reefs Mine.—The syndicate that owns this property has done a considerable amount of work in still further proving the value of the reefs, and has met with a fair amount of success. 1,451 tons of ore, including tailings, was treated for 3,032 oz. 19 dwt. of bullion; value, £4,444 13s. 9d. As the tailings in reserve from previous crushings became exhausted, and the payable ore in sight in the mine could not be broken out in sufficient quantities to keep the mill running, the crushing plant was stopped and the men employed in the battery and some of the men in the mine were suspended for the time being, and only a few retained to carry out prospecting-work.

Sunbeam.—The work carried out in the mine was limited during the year, as the reef was opened up to a considerable extent and the company was awaiting the completion of the crushing plant, consisting of a five-stamp mill, three Frue vanners, cyaniding-vats, &c., in course of erection. When this was accomplished no time was lost in treating the ore broken out to prove its value in bulk, which proved very satisfactory; but as it was found to be too costly to run the machinery by steam-power, a suction gas-engine is being erected, which will reduce the cost of the treatment of the ore and by this means make the mine a payable concern. 220 tons of ore was treated for 2,231 oz. 4 dwt. of bullion; value, £367 12s. 2d. An average of seven men were employed.

Ngatiawa.—This mine is in close proximity to the Sunbeam property, and was lately taken up and a company formed to develop it. A large reef is being driven on at the surface adit level, from which, I am informed, assays have been made giving highly payable results. In consequence, the shareholders are sanguine of the mine becoming a dividend-payer at no distant date, or when an up-to-date crushing plant is erected, as contemplated. Four men employed.

CONCLUSION.

It seems a strange coincidence that several small claims recently acquired in close proximity to the Thames Township have, after being worked for a very short time only, treated small quantities of specimen stone for exceedingly large returns, and yet no general dirt was crushed.

ACCIDENTS.

During the year six fatal accidents happened in this district.

Date.	Name of Person.	Name of Mine.	Cause.
Jan. 22, 1906	Arch. Nicholson ..	Waihi ..	Killed by explosion in Richard's pass.
May 9, 1906	T. T. Schofield ..	Waiotahi ..	Killed by being caught in belting and drawn around on the shaft of machinery.
Oct. 29, 1906	William Thorpe ..	Grand Junction	Killed by fall of earth at battery excavation.
Nov. 18, 1906	William Gray and Thomas H. Boxall	Waihi ..	Killed by explosion in No. 2 shaft.
Nov. 27, 1906	George Smale ..	Talisman ..	Killed by falling down pass.

All other accidents of a serious nature that occurred during the year were duly reported.

MINERALS OTHER THAN GOLD.

Copper-mines.

Ferguson Syndicate (Whangaroa, Pupuke).—The syndicate has during the last few years done a considerable amount of surface prospecting over a large area of ground, and although copper-ore has been found on or near the surface at a number of places termed "outcrops," yet no defined lode had been discovered up to the time of my visit in September last. Just prior to my inspection a shaft had been sunk through a lode formation said to be 20 ft. in width, in which small nodules of copper-ore were found, and assays from some of the pieces gave from 5 per cent. to 20 per cent. of copper. The shaft was full of water when I was at the mine, and consequently I did not see the lode formation mentioned above. The men were then putting in a crosscut to intersect the lode in close proximity to the shaft. Five men were employed.

The Hare-Ratjen Mine.—A large amount of prospecting has been done on this property, but for some time past the work has been confined to driving on what is said to be the course of the lode from the side of the small creek, where very nice copper-ore is obtained; but it appeared to me to be in patches in soft pug or slidy formation, and was not what could be termed a defined lode. Still, there were large boulders of ore showing on the sides of the drive, which leads me to believe that the place where they are working is a slip from the side of the hill, and the lode where the boulders have come from has not yet been found. 14 tons of ore was forwarded to New South Wales for treatment, but I have not yet found out the value. An average of six men were employed on this mine during the year.

Maharahara Mine.—This copper-mine is situated on the eastern side of the Ruahine Range, and about ten miles from Woodville, in the Hawke's Bay District. It is an old mine lately taken up, and on which a considerable amount of work was done between thirteen and eighteen years ago in the shape of driving, sinking, and prospecting. At the time of my visit there were seven men employed on the mine, being engaged in cleaning out and repairing the drives put in by the former owners. A good deal of work had been done on the outcrop of the lodes, and what may be termed No. 1 level had been driven about 350 ft., where two lodes had been intersected, one 55 ft. in width only cut through, and the other 9 ft. in width driven on for something like 60 ft. The two lodes are only a few feet apart, and to all appearances they will come together to the north of the present face. The low level is 400 ft. below No. 1 level driven in from the creek into the side of the hill, and is said to be driven 700 ft. where the lode was intersected. When I was there it had been cleaned out and repaired for over 600 ft., and then was not into the lode. The lode is a strong body of stone, and if the assays made by Dr. Hector and others some years ago were fair tests (i.e., not picked stone), said to contain from 5 per cent. to over 20 per cent. of copper, the mine should be well worth opening up, especially as copper at present is at a high price. Still, it will require a large amount of capital to develop it and put the copper on the market. Yet the present shareholders are sanguine of accomplishing this object, and say they will leave no stone unturned in trying to make it a success.

For some time past inquiries have been made about the copper-mines at the Kawau and Great Barrier Islands, where mining was carried on many years ago, and the attention of the public has also been directed more to copper-deposits lately than it has been for the last forty years. This is, no doubt, caused by the great increase in the price of copper.

Fuller's Earth.

New Chum (Tararu).—This claim is situated on the Ohio, or Branch Creek, which strikes off the main Tararu Creek at the Sylvia battery-site, and is about three-quarters of a mile from the main road, near the Old Ironcap Mine. There appears to be a large body of stuff of a white brittle nature, which is being sluiced and washed and then passed over gratings into tanks; only the very fine sediment is saved for the market. The concern is on a very small scale: a shed, two vats, and a few drying-tables are erected at a distance of about 800 ft. from the face that is being worked. The man in charge is sanguine of its being a success, provided that a little capital is expended in providing a larger plant, including pipes, &c.

Cinnabar.

New Hauraki Cinnabar, Kauaeranga.—There was very little work done on this mine for the greater part of the year, but towards the close a syndicate acquired an option over the claim, and let a contract for driving a low level a distance of 150 ft. to intersect the lode driven on at the surface level. At the end of the year this contract was not quite completed. The lode where driven on was only about 1½ ft. in width, and it has not been opened up for any great distance. Should the lode prove to be as good as at the upper level the intention will be, I am informed, to open up the mine thoroughly and make it a payable concern.

Antimony.

Antimony Lode.—An antimony lode was discovered by Pierce Lanigan in the early part of the year. It is situated about six miles from Opua, at Bay of Islands, and near deep water; it is only a short distance from where a good-sized boat can be loaded. The lode is very irregular, varying from a few inches to 4 ft. in width. A little over 50 tons of ore was shipped, which was taken out by trenching up the side of the rising ground on the lode; but a drive is now being put in on the course of the lode from the surface. The prospects met with have so far been exceedingly encouraging, and it is fully expected that it will be a profitable concern. I am unable to ascertain the value of the ore broken out. An average of four men were employed.

I have, &c.,

JAMES COUTTS,
Inspector of Mines.

The Under-Secretary, Mines Department, Wellington.

Mr. ROBERT TENNENT, Inspector of Mines, Westport, to the UNDER-SECRETARY FOR MINES, Wellington.
SIR,—

Inspector of Mines' Office, Westport, 4th April, 1907.

I have the honour to report as follows on the gold-mines in the Marlborough, Nelson, and Westland Districts for the year ended 31st December, 1906 :—

QUARTZ-MINING.

BLenheim.

Wairau Gold-mining Company.—Mining operations are still continued under the supervision of Mr. Linstrom, who also works the Small reef on tribute. Crushing was much hampered through scarcity of water, but in comparing the stone treated the returns are satisfactory. The scheelite has practically disappeared. Development comprises 320 ft. of driving east and 60 ft. west, while connection was effected with the surface level to maintain ventilation, which is good. In view of the company taking over all works, the tribute agreement is under consideration, as the company wish to adopt the system of day wages.

Pine Valley.—It is interesting to note that, although eight prospecting areas are taken up in the valley, not a man was found at work when the locality was visited on the 11th February, 1907. The only work done was a winze sunk 30 ft. and a little trenching.

Leases on the Dividing-ranges between Mahakipawa and Waikakaho.—Mr. Thomas, who was prospecting on behalf of a syndicate, states he has succeeded in tracing the reef down the western slope of the range, with good surface prospects.

The All Try Syndicate.—This property is situated about one mile south of the Jubilee. The works have been simply of a prospecting character, comprising the sinking of a winze to a depth of 50 ft., from the bottom of which 30 ft. were driven on the line of reef. Where exposed on the outcrop the reef was 3 ft. in width and showed fair prospects of scheelite and gold, but finally it pinched out to the bare walls at a depth of 50 ft. All work is securely timbered.

HAVELOCK.

The Golden Bar and Federated Yorkshire.—Notwithstanding the repeated promises made to commence operations on this property, nothing further has been done. We are informed that trial samples of ore were recently shipped to Wellington.

COLLINGWOOD.

Upper Anatoki.—Under the guidance of the Takaka Miners' Association, Kennedy and party have determined an outcrop varying in width from 18 in. to 2 ft., and sinking was proceeded to a depth of 6 ft., until prevented by water. Having secured a prospecting area of 100 acres, crosscutting was commenced on a low level that would give 60 ft. of backs, at about 150 ft. of driving. The association has further arranged to send out another strong staff to prospect and locate the line of reef and carry out general development.

Johnston's United, Bedstead Gully.—All work is suspended on this property pending instructions from the Home office.

Golden Ridge (Taitapu Gold Estates; James Carroll, mine-manager).—Mining and prospecting operations have been suspended on the Golden Ridge, while attention is being directed to developing the Sandhill section, where driving has been extended for 300 ft., with a deviation of 50 ft., making a total of 350 ft. Timber is freely used where required, and ventilation well maintained by a small fan driven by an overshot water-wheel. On No. 4 block, 750 ft. of tunnelling is completed and securely timbered. Ventilation (good) is assisted by water blast. Boring operations have been conducted by diamond drill to a depth of 480 ft., in view of proving the coal-bearing measures in the Paturau district. The increased hardness of strata is taken as a notable feature as depth is attained. The machine is recommended to attain a depth of 2,000 ft. with a 2½ in. crown.

Golden Blocks, Taitapu (C. Y. Fell, attorney, Nelson).—Mining operations on this property have not fully maintained their previous standard in value, notwithstanding development is consistently kept in advance of battery requirements; but a change for the better may occur at any moment, as the mine is very patchy. Mining has been chiefly confined to extending No. 2 intermediate and Nos. 2 and 3 low levels south, while stone for milling purposes was taken from stopes above No. 2 level and No. 2 intermediate. The total drivings aggregate 860 ft.; risings, 950 ft.; and the areas stoped, 5,320 square feet. The gross tonnage milled, 1,696 tons, yielded 1,435 oz. 19 dwt. melted gold, valued at £5,678 ls. 5d., showing a decrease in values of £5,428 2s. 1d. against the preceding year. Prospecting east was suspended during the winter, but will be resumed in a few days. As the country is overlapped with sandstone, quartzite, and conglomerate, great difficulty is experienced in locating outcrops, and so far nothing has been found of a payable nature. The principal workings are confined to No. 3 block, while No. 2 is being thoroughly prospected. The quartz and strike of gold is dipping very much southwards. Gold can be seen in the stone in faces of No. 2 intermediate and No. 3 low level.

WESTPORT.

Red Queen, Mokihinui (owner, A. W. Mills, Westport).—This property continues to be worked on a thin vein of stone by two men on tribute, with fairly satisfactory results. Recently a rich pocket of stone was discovered near the western boundary of the lease, and in consequence operations are meanwhile suspended pending a settlement of the boundary-lines at the Warden's Court. Stone milled, 97 tons; yield 149 oz. 8 dwt., valued at £585 5s. 10d.

Britannia Mine.—As the intermediate over No. 6 level has been driven south 65 ft. past the stone formerly followed down from No. 4, crosscutting was commenced on the hanging-wall 40 ft. back from

the face, and although stone 18 in. wide of fair value was intersected, it only continued for a length of two sets of timber. At this point sinking was quite impracticable, owing to the heavy inflow of water from the dyke formation which overlay the stone. However, to win the stone on a lower level No. 7 has been driven 63 ft., but before it can be cut on line with No. 6 a further distance of 80 ft. will be required. On this level driving has been very expensive owing to the wet and loose nature of the ground. An outcrop was recently exposed under a heavy overburden of slide country, which necessitated further prospecting to be abandoned. Consequently, driving is now in progress around the slide in view of cutting the stone further into the hill. Stone milled, 1,004 tons; yield 534 oz., valued at £2,014 14s. Sands treated by cyanide were 1,650 tons, yielding 414 oz. 17 dwt., valued at £1,199 14s. 9d. Concentrates valued £91 5s. 4d.

LYELL.

Alpine Company.—This company having dissolved, mining was resumed under the ownership of Messrs. Craig, Stevenson, and Billett. In resuming operations two men were engaged in repairing and further extending No. 7 level on a strongly defined track, when, at a driven distance of 20 ft., the parties were fortunate in striking a valuable vein of stone 1 ft. thick on the hanging-wall. The stone as taken from the mine shows gold freely, and guided by general appearance may be classed as "picked stone." At the end of the year the stone had maintained thickness and value to a depth of 20 ft. Another man attends to repairs and the pumps on No. 12 level.

New Creek.—The prospectors abandoned all work during the winter months, and at time of writing work was not resumed.

The Italy Syndicate (late Tyrconnel).—Nothing further has been done on this property since previous report.

BOATMAN'S.

Welcome.—This mine is still let on tribute to McKenzie and party, who extracted approximately 118 tons of ore, yielding 223 oz. 4 dwt. 10 gr., valued at £918 3s. 7d. They also cyanided the tailings produced, valued at £195 15s. 11d. Work consists of locating a small ore-body, extracting and milling it, and then looking for another, which must be considered as a hand-to-mouth existence.

Kirwan's Reward (William Kirwan, mine-manager).—As the loose payable stone overlying the cap of the range was nearing exhaustion, an intermediate level was driven between 300 and 400 ft. to intersect the outcrop known to exist in what is known as Saw-pit Gully. Stone was met with, but soon pinched out, and so far has not again been picked up. Plant and general working-conditions are in good order. Stone milled, 2,354 tons; yield 522 oz. 4 dwt., valued at £2,019 7s. 3d.

Lady of the Lake.—Although this persevering party has driven a considerable distance and intersected various supposed reef-tracks, values are still awaited.

Italian Creek, Capleston (John Knight in charge).—Since Knight and party commenced work on this old mining property the main tunnel has been repaired and driving extended to a total length of 800 ft. Fortunately, the party has finally succeeded in locating a small reef, which is considered payable, and for 50 tons of stone treated the yield of gold was 55 oz. 2 dwt. 12 gr., valued at £217 10s. To effect further economy in milling, &c., the steam-power formerly used is likely to be early replaced by water installation. Timbering and ventilation are strictly attended to. Three men employed.

Hopeful Syndicate.—This property includes the Hopeful and Alexander leases. The party having previously determined the position of rich stone on the surface, crosscutting was commenced on a low level, and the track intersected at a driven distance of 250 ft. Driving has since been continued on the line of reef for 150 ft., and the party is confident that a further 20 ft. will strike the lode.

Specimen Hill.—Under authority, Mines 1905/1334, Howell and Kennedy were granted a subsidy of £75 to drive a tunnel at Specimen Hill, Boatman's district, a distance of 500 ft. at 3s. a foot. Paid, 294 ft.

Caledonian Syndicate.—Subsidy at the rate of £1 for £1 up to £250 was approved on behalf of the Caledonian Syndicate towards sinking a shaft 10 ft. by 4 ft., and divided into three compartments. Total depth sunk, 70 ft. Paid, £161 15s.

REEFTON.

Wealth of Nations.—This mine has worked steadily, while the quartz required for milling purposes was taken from Nos. 6, 7, and 8 stopes, and also from the development of No. 9 level. The No. 6 stopes were worked to a finish by the end of March, when the men were drafted to No. 8 stopes, the incline shaft secured to act as an airway, and the rails withdrawn, so that since then the total output has been handled through the Energetic shaft from Nos. 7 and 8 stopes, neither of which maintain a high grade. Stopping is not yet commenced on No. 9 level, but during the year connection was completed with No. 8, on stone. Thus the ore is ready to break when required. On the 8th September Stokes and party contracted to sink the main shaft to No. 10 level, a further vertical depth of 125 ft., and at the end of the year sinking was completed. The same party have further contracted to drive the new level, which will be the principal work of importance during the current year. The quartz milled was 12,676 tons, yielding 4,160 oz. 12 dwt. of bullion, valued at £17,245 4s. 1d., or £1 7s. 2-511d. per ton. Concentrates to the value of £755 5s. were saved and shipped to the smelter. At the cyanide-works, 8,640 tons, representing 68-16 per cent. of the tonnage crushed, were cyanided, yielding bullion valued at £5,717 0s. 5d., or 13s. 2-806d. per ton. Of this figure, 2s. 1-437d. per ton was consumed in working-cost, leaving the handsome profit of 11s. 1-369d. per ton treated. The exploratory work conducted has exposed values of non-importance, while driving and crosscutting amounted to 1,186 ft., and raising and sinking to 320 ft., at a cost of £3,224. Diamond drilling was done through barren country to the extent of 753 ft. horizontally. Alterations of importance have not been made to the

equipment, except that the old-fashioned cam-shaft, cams, and tappets have been replaced by those from the Inkerman battery. The old hoisting water-wheel was dismantled and replaced by a Pelton, by which power is provided for the dynamo, sawmill, and lathe, and baling from the vertical shaft when required.

Golden Fleece Mine.—In the early part of 1906 attention was restricted to making a connection between No. 6 level and the bottom of the Ajax shaft, at No. 5 level. This was successfully carried out, and an engine installed at the brace of the shaft, and the upper portion of the shaft retimbered during the first four months of the year. About the middle of May stoping was commenced with a small gang of men, and by the 18th June sufficient quartz was broken to warrant the battery working two shifts per day, and on the 24th June crushing was extended to full time on three shifts, and has since continued. Making the connection between Nos. 5 and 6 levels in the old shaft was an expensive job, but the outlay was amply justified on account of the time saved per man per day when working bank to bank from the Ajax shaft, as compared with bank to bank from the mouth of the low-level tunnel. The principal developments effected consist of driving No. 14 level from a point 185 ft. north of the crosscut to a total length of 678 ft., along which distance a comparatively small amount of stone was discovered. North of the crosscut, rising from No. 14 level was on the 22nd December completed to a height of 121 ft. It is proposed to drive No. 14 level to the furthest-known limit of the stone, make the necessary connections for ventilation and the passing of ore, and then sink an incline shaft on the northern end of the ore-body to determine value and extent at depth. Since the battery resumed crushing (the first return for the year was at the end of July) 6,725 tons were milled, yielding 2,623 oz. 10 dwt. of bullion, valued at £10,745 17s. 9d., or £1 11s. 11·496d. per ton crushed. Sulphurets to the value of £510 were sold to the smelter, whilst 4,460 tons, representing 66·319 per cent. of the tonnage crushed, were cyanided, yielding bullion to the value of £1,334 7s. 7d., or 5s. 11·805d. per ton treated. Of this amount 2s. 1·639d. was consumed in working-costs, leaving 3s. 10·166d. per ton profit.

Progress Mine.—Although mining operations have been steadily maintained and development actively pushed throughout the year, exploitations have failed to expose any fresh deposits except on No. 11 level, where an ore-body of value was ultimately encountered at a driven distance of 1,100 ft. from the main shaft. In all, development comprised 3,715 ft. of driving and crosscutting, and 785·5 ft. of rising and sinking, at a cost of £6,764 14s. 8d., besides which 4,499 ft. of diamond drilling was undertaken at a cost of £2,237 11s. Stoping has been continued in a general manner throughout the mine from No. 11 level up to No. 4. Some new blocks were started and some of the old ones exhausted. Alterations to the surface equipment were not important, except that a Forwood Down's pan was purchased and erected for sliming experiments, and a small Ball mill for slag-crushing purposes, &c. The 65-stamp battery crushed 59,100 tons, yielding 18,073 oz. 19 dwt. of bullion by amalgamation, equal to 6 dwt. 2·793 gr. per ton. Value of bullion amounted to £75,160 2s. 10d., or £1 5s. 5·218d. per ton, and during the year 886·9 tons of pyritic concentrates and slimes were shipped to the smelter, realising £11,797 10s. 2d. At the cyanide-works 38,410 tons of sands, representing 68·376 per cent. of the tonnage crushed, yielded 5,403 oz. 8 dwt., valued at £14,947 5s. 1d., or 7s. 9·396d. per ton treated. Of this amount the sum of 1s. 6·367d. was consumed in working-cost, leaving the handsome profit of 6s. 3·029d. per ton. An analysis of the treatment-cost is of interest, on account of the low figure achieved: Wages, 4·969d. per ton; cyanide, 10·701d. per ton; zinc and chemicals, 2·054d. per ton; general stores, 0·499d. per ton; assay office percentage, 0·144d. per ton: total, 1s. 6·367d. per ton. Experimental work has been extensively undertaken towards the discovery of a more successful mode of treating the battery-slimes, and although very exhaustive tests and trial roasts were put through the chlorination-works, the results obtained only prove that, whilst a fair extraction can be had from a trial roast, with the furnace empty except for the trial parcel, the same results cannot be obtained when the ordinary working-charge is being treated. Mr. Alfred James, specialist and consulting chemist to the company, paid a personal visit to the works and went into the treatment very thoroughly, and for a time it was thought the difficulty was solved, but, unfortunately, the same results could not be obtained afterwards when treating the month's output as with the trial parcels. Experts in London are still working on the material, of which 30 tons were forwarded recently for experimental and bulk trials. In the current year the policy to be pursued is to vigorously push development-work in order to add to the ore-reserves, if possible, as the operations of recent years have diminished the reserves very considerably.

A general summary of the aggregate working-cost, yield (including proceeds of concentrates sold), and the resulting profit in milling 59,100 tons, cyaniding 38,410 tons, and the sale of 886·9 tons of concentrates, is as follows: Total working-cost, £52,916 15s. 10d. = 17s. 10·891d. per ton milled; profit, £48,987 19s. 5d. = 16s. 6·936d. per ton milled; yield, £101,904 15s. 3d. = £1 14s. 5·827d. per ton milled.

Keep-it-Dark (owners, Keep-it-Dark Quartz-mining Company (Limited); Benjamin Sutherland, mine-manager).—With regard to mining and the varied developments directly connected with the extraction of ore, development and general equipment continue to maintain their former standard. On Nos. 4 and 5 levels the lode has been exhausted and properly filled in to the upper levels. Output for milling purposes was chiefly mined from No. 6, where two blocks of ore occur, with a combined length of 270 ft.; also on the same level a third or branch block has been driven on for a distance of 180 ft. At a depth of 1,000 ft. from the brace the main lode was intersected on No. 7 level at a driven distance of 347 ft. from the shaft, and the necessary connections effected for ventilation and the passing of ore between Nos. 7 and 6 levels, and No. 6 and the western branch of No. 5. Hence direct communication is maintained throughout the whole series of workings. In raising between Nos. 6 and 5 levels ventilation was very efficiently induced by means of a small fan, ingeniously driven by water-power under a head-pressure of 300 ft., the installation of which reflected credit on the part of the management. Referring to my remarks in previous report in reference to the altered conditions in strike and underlie on No. 6 level, further development on No. 7 has proved the pitch of the lode to maintain an almost

level course northward, and samples broken from the reef give promise of average values. Including development and general expenses in connection with the working and upkeep of mining property and plant, the working-cost was £7,153 13s. 10d., or a fraction over 10s. 9d. per ton. Battery worked full time, with the exception of a few hours' stoppage to effect minor repairs. Tonnage crushed, 13,300 tons; yielded by amalgamation, 3,281 oz. 14 dwt. 18 gr., valued at £13,200 19s. 4d.; and working-cost, £1,489 13s. 5d. This amount includes all renewals to milling and concentrating plant, together with general repairs to head and tail races, absorbing about 2s. 3d. per ton treated. The values extracted by cyanide compare favourably with the preceding year, but in cost of treatment a reduction of 6d. per ton is shown, this reduction being attributed to the reduced percentage of cyanide used, by the introduction of caustic soda as a more economical and effective solvent in the treatment of high- and low-grade antimonial ores. Bullion obtained from the gross tonnage crushed was 1,543 oz. 12 dwt. 12 gr., valued at £5,686 0s. 7d., or an average value of 8s. 6½d. per ton; while working-cost, including salaries and goods, amounted to £1,819 19s. 8d., or nearly 2s. 9d. per ton on total output, showing a profit of £3,866 0s. 11d. The gross earnings by amalgamation and cyanide extraction show a total value of £18,886 19s. 11d., out of which a dividend of 9s. per share has been paid.

Inkerman Mine.—Prospecting was carried on for the first three months of the year, but the value of the quartz operated on was too low to warrant further expenditure, so the rails, pipes, &c., were withdrawn and stacked on the surface, and distributed round the other mines as required.

Victoria and Inglewood (owner, P. N. Kingswell).—Since the stone became exhausted on the inclined shaft section below No. 5 level, work has been chiefly confined to prospecting and development, whilst the stone mined for milling purposes was chiefly taken from prospecting-work on Nos. 2 and 5 levels, Inglewood, and No. 4, Victoria. Working-conditions were maintained satisfactorily throughout the whole operative areas, care being taken to make special features of ventilation and timbering. The reduction-works comprise a ten-stamp mill actuated by steam-power, together with a complete cyanide plant, the tailings having a natural flow to the vats. Stone milled—645 tons—yield 530 oz. 6 dwt., valued at £2,126 4s.; and 625 tons of sands treated by cyanide yielded 398 oz. 18 dwt., valued at £1,295 13s. 9d.

Big River (J. H. McMahon, mine-manager).—Mining operations have been well maintained throughout the year, whilst the stone for milling was stoped from No. 8 east reef, the western reef between Nos. 7 and 8 levels, and the two winzes sunk in No. 8 level on east and west reefs. Prospecting was also extended on these levels, but without success. To effect further development at depth the main shaft was sunk and completed in every detail to a further depth of 150 ft., making the total depth from the battery level 1,150 ft., and from the brace 1,350 ft. Contracts are let to excavate the chamber and drive the main crosscut 450 ft., at which distance it is anticipated to cut the lode. Timbering and ventilation are strictly observed, and during sinking operations repairs were carried out in a general way throughout the mine. The stone milled was 2,037 tons, yielding 1,940 oz. 8 dwt. 12 gr., valued at £7,904 11s. 2d. Dividends paid for 1906, £2,332 10s., and since registration, £49,698 15s.

Last Chance.—This claim continues to be abandoned. The five-stamp mill is still on the property.

Golden Lead.—Work suspended on this property.

Golden Point.—Prospecting is still continued by one man. The water-races, overshot water-wheel, and other works in connection with the battery plant have been recently overhauled preparatory to crushing. About 60 tons of ore in hand.

A1 Mine, Merrijigs.—This old property was recently reopened and work resumed on tribute. The reef formation is chiefly leaders of high value.

Phoenix (late Ulster).—On reconstruction of the company, mining operations were resumed on the low level in view of picking up the north block. A five-stamp mill, purchased at Boatman's, will be removed and rebuilt directly on completion of necessary repairs to the road.

Taffy.—The working is a loose open-face formation, intermixed with small leaders. The stone milled—100 tons—yielded 30 oz. 6 dwt. 6 gr., valued at £123 1s. 5d.

Minerva.—Still standing.

Garden Gulley.—All work suspended.

Moonlight.—Since Mitchell and party commenced to further extend exploitation on this old mining privilege, their efforts have failed to attain the success anticipated, but they are sanguine that the line of reef is within a further distance of 200 ft.

Blackwater Reefs.—Early in the year 1906 Mr. Kingswell, of Reefton, obtained an option over a recently discovered property in the Blackwater district, and accordingly proceeded to carry out prospecting. By the 9th May operations had been so far successful as to warrant an inspection of the property. By the end of May the Consolidated Goldfields of New Zealand had secured an option over the property for six months, with the object of carrying out a more detailed system of prospecting. A party of miners was sent down from Reefton, and the reef traced by means of vertical prospecting shafts for a horizontal distance of approximately 600 ft. An inclined winze was sunk 260 ft. on the stone, and driving was continued from the bottom to a distance of 70 ft. Arrangements were finally made for sinking a main shaft. A tramway two miles and a quarter long was constructed to connect with a sawmill tramway a mile and three-quarters in length. This work was done, and the tramway laid through from the sawmill to the shaft-site by the 12th December, and the engine and boiler were delivered on the ground for erection. The poppet head gear, 15 ft. in height, was erected, and ready to commence sinking in the beginning of 1907. Two tunnels were driven on contract—one from Greek's Creek towards Coorang Creek, 313 ft., and further south on the Joker lease another 563 ft., when work stopped for the year. These tunnels will both be extended, the former until it meets a winze from the Coorang Creek, and the latter until it reaches the shaft, when its total length will be, approximately, 1,500 ft. A contract has been let to sink the main shaft 500 ft. In connection with the general development, considerable work will be required to bring the property to the producing stage, which may be reached at an early date.

Upper Blackwater Reefs.—Apart from the mining areas held and now being actively developed by the Consolidated Goldfields of New Zealand (Limited), prospecting is in progress by five separate parties, who hold prospecting areas of 100 acres each. On each of these latter areas mentioned two men are employed, either in driving or surface prospecting, but the results so far obtained are not worthy of special interest.

Paparoa Ranges.—J. Hargreaves, Ahaura, with one man, has spent some time prospecting the western slope of the ranges rising from the head of the Shellback. Whilst rising the first 1,000 ft. non-auriferous conglomerates were the only strata met with, and at 1,600 ft. above sea-level traces of gold were found in a formation of crushed slate and quartz. Being hopeful of reef formation existing above the 1,600 ft. plateau, prospecting will be further continued.

Brunner Prospecting Association.—Under authority, Mines 1906/700, subsidy of £150 was approved in favour of the above-named association, to enable the tunnel at Paparoa to be driven 1,000 ft. at 3s. per foot. Total drivings, 364 ft. Paid, £54 12s. Driving is continued in fine slate country, which requires careful timbering. Ventilation is assisted by water-blast.

Wilberforce Reefs.—The mining and prospecting operations on the Wilberforce reefs have taken a serious relapse, for at the end of the year there were only three men on the field doing some surface prospecting.

Ross.—Osmer and Feddis having recently discovered an outcrop of promising value on the left-hand branch of Donnelly's Creek, a level now in progress is calculated to intersect the lode at a vertical depth of 40 ft.

GENERAL REMARKS.

In reviewing the statistics of workings in quartz-mines, as furnished by the owners for the years 1905 and 1906, the ore milled for 1905 was 116,901 tons, yielding bullion to the amount of 50,118 oz. 10 dwt. 18 gr., valued at £196,367 11s. 9d., against 757 persons employed; whilst for the year 1906 ore milled was 100,207 tons, yielding 43,952 oz. 5 dwt. 10 gr. of bullion, valued at £169,928 19s. 11d., against 736 persons employed. For the year 1905 the average stone mined per person employed was 154.426 tons, and for 1906, 136.150 tons. Comparing the tonnage milled, yield of gold, and values, the following will show the relative decrease for the year 1906: Shortage in tonnage milled, 16,694 tons; in yield of bullion, 6,166 oz. 5 dwt. 8 gr.; in values, £26,438 11s. 10d., against a decrease of twenty-one persons employed. Dividends paid during 1905 amounted to £48,185, and during 1906 to £45,707 10s., the latter being a decrease of £2,477 10s. During the year 1906 fatal accidents in connection with quartz-mining were nil.

HYDRAULIC AND ALLUVIAL MINING.

MAHAKIPAWA.

Mahakipawa Flat.—All work is at a standstill both at the Last Chance and King Solomon. The latter is under option to a Wellington syndicate, who expect to raise the necessary capital to unwater and further develop the mine.

Coombes, Morton, Campbell, and Party (six men) have been working steadily for some time in the Mahakipawa Valley, but owing to scarcity of water all work was suspended when visited in the beginning of the year.

Clements and Party (two men).—This party continues to work on the right-hand branch with favourable results, otherwise there is nothing of interest to note.

Hill and Bainey are still working away with very unsatisfactory results.

Wakamarina and Deep Creek.—Crevicing and blind-stabbing have been two favourite pastimes during the exceptionally dry season.

John Williams is prospecting on behalf of an Auckland syndicate, but he informed the Assistant Inspector that so far prospects are not sufficiently favourable to warrant any extensive outlay.

Terral and Party (two) are sluicing in a tributary of the Top Valley Creek, known as the Aniseed Valley, with satisfactory returns.

This tributary also gives profitable employment to four other parties during low water.

On the whole, during the year 1906 gold-mining has failed to be a profitable concern in the Wakamarina Valley, and still continues to show a falling-off.

TAKAKA.

Kennedy, while removing some large stones on the river-bed, succeeded in picking up a 34 dwt. nugget, together with a nice parcel of fine gold. This find has caused some little excitement, and evoked quite an influx to the locality.

Takaka Hydraulic Sluicing Company (Charles Campbell, manager).—Operations are still confined to the eastern section of the property, rising on the base of the hill country. Scarcity of water, however, has been much felt, consequently returns show a slight falling-off. The working-conditions and general equipment are well maintained, and kept in a workmanlike and satisfactory order, being alike creditable to workmen and employer.

COLLINGWOOD.

Parapara Hydraulic Sluicing Company.—Whilst the Hit or Miss section of this alluvial property was nearing exhaustion, development was mainly restricted to effect drainage and other operative works connected with the opening-out of the deep auriferous deposits of Appo's Flat. To effect drainage, levels were taken and a tail-race tunnel driven a distance of 600 ft. for the discharge of

tailings into Stanton's Creek, and thence into the Aorere River, instead of as formerly into the Parapara. Prior to completion of the drainage-tunnel the Hit or Miss working became exhausted and abandoned, while the pipe-line connections were relieved and reinstalled to develop the virgin flat before mentioned. In the meantime, operations are confined to sluice off the surface layers to free level; but, as mentioned in previous report, the future propositions of the company are to elevate the deeper deposits.

Quartz Ranges (owner, C. Y. Fell, Nelson).—Diamond and party of six men continue to work this property on tribute, the operations being chiefly confined to the Debtors' Terrace. Referring to the working-conditions, there is nothing of special interest to note, both parties being alike satisfied with the results obtained. All works are in a safe condition. Yield of gold for the year, 307 oz., valued at £1,074 10s.

Rocky River.—There is only one man working in the locality.

Slate River Sluicing Company.—Under authority, Mines 1906/879, a subsidy of £150, at the rate of £1 for £1, has been authorised to assist the Slate River Sluicing Company to drive a low-level tunnel to prospect the deep ground in its claim near Collingwood. This tunnel has been driven a completed distance of 100 ft. (dimensions, 7 ft. by 7 ft.) on a rising gradient of 12 in. in 7 ft., and raised 50 ft. (7 ft. by 7 ft.) on a gradient of 1 in 4, to connect with the deepest part of the present face. Formation is hard slate. The limited water-supply in dry weather continues to be a drag on this property, even though various streams have from time to time been directed into the Toitoti Dam. Yield of gold for the year was 203 oz. 3 dwt. 17 gr., valued at £763 10s. 3d. Value per ounce, £3 17s. 10d. Average number of men employed, 7.

WESTPORT.

On the German Creek and its tributaries mining has practically become a subject of the past. Probably the head of the Caledonian Gully is the most active centre of alluvial mining, which comprises two small parties driving out. A few pennyweights are still being raked from the creek-beds and gullies.

Cook's Terrace, Fairdown.—This subsidised tunnel continues to maintain very comfortable work at fair average wages. The ground is very nicely worked and securely timbered.

Christmas Terrace.—This subsidised tunnel intersected the auriferous lead at a distance of 600 ft., driven directly from the face of the Fairdown old sluicing claim. Water has been efficiently laid on both for sluicing and ventilation purposes, ventilation being assisted by water-blast, and conveyed through a continuous pipe-line direct on to the face. The wages earned are satisfactory, and may be considered above the average.

Rockfort Terrace.—Under authority, Mines 1904/922, Young and McKay were authorised to expend £150 to drive 1,500 ft. Driven 1,324 ft. Several leads have been cut and washed, but are not considered payable. Driving is still continued on the back lead.

Giles's Terrace.—Under authority, Mines 1905/643, Hooper and party have driven their subsidised tunnel the authorised distance, 700 ft. from the 1,200 ft. peg. Several uprisings were raised, but the values obtained were not considered payable.

North Terrace, Mokihinui.—Under authority, Mines 1905/524, subsidy was approved to enable Charles Stewart to drive 300 ft., at 3s. a foot. Driven 240 ft. Paid £36. As driving is extended the country continues to show more favourable prospects as the auriferous wash is intersected eastward.

Welshman's Terrace.—Under authority, Mines 1905/422, subsidy of £75 was approved to enable Martin Conradson to drive 500 ft., at rates prescribed by (e) of Regulation 97. Driven 290 ft., at 3s. per foot. Paid £43 10s. The auriferous lead has not yet been intersected.

Gentle Annie.—Joseph Hawkins, now prospecting in the locality of Half-moon Bay, about three miles north of the Mokihinui River, has failed to obtain the prospects anticipated, but he considers that values will improve as prospecting is extended into the terrace lands.

Five resident parties make a comfortable living washing the black sands on the sea-beach between Jones's Creek and the Waimangaroa River.

St. John's Terrace, Addison's (Brady and party—four men).—The subsidised track recently constructed on this elevated property has supplied not only a long-felt want, but working-conditions are likewise facilitated. The conservation of water has been further supplemented with additional storage-capacity, so that sluicing and other operations are practically assured against loss of time under all conditions of weather. The working-conditions and general equipment, including the gold-saving appliances, are in good order, while the auriferous values continue to give a satisfactory remuneration for labour and capital expended.

Carmody and Party (eight partners).—Sluicing and elevating operations are directed on a face 30 ft. in depth, which contains two auriferous leads, the upper of which was driven out in the early days. Presently, the auriferous values are chiefly dependent on the bottom layer, which maintains an average depth of 6 ft., directly overlying the blue marine bottom. The washed gravels are run into trucks and elevated on a double tram-line by water balance, and the auriferous sands distributed over a large surface of plush-laid open tables. Payable results are steadily maintained.

McKnight and Party, Addison's, continue to work their sluicing and elevating claim with very successful results.

Long Tunnel, Addison's.—Outside the ordinary routine of operations there is nothing of special interest to note. Yield of gold for 1906 was 242 oz. 14 dwt. 13 gr., valued at £958 15s. Value per ounce, £3 19s. Dividends paid during 1906 amounted to £103 16s., and since commencing work, £827 10s.

Venture Claim.—This party suspended all work in connection with mining and crushing the cemented auriferous sands, and have opened a sluicing and elevating alluvial area on a southern section of their mining privilege. Since this section was opened the party is well satisfied with the results obtained.

Cement-working.

Millikin and Party are working their alluvial claim and crushing the cements and sands. The values from this property keep well to the front, both from the alluvial and cemented auriferous sand deposits. Crushing was commenced recently. During the year 1906 5,000 tons were crushed, yielding 260 oz. melted gold.

Golden Sands, Addison's.—This property was formerly opened by an Auckland company, and subsequently abandoned. McCulloch and party (four men) on resuming operations have erected a four-stamp mill, and are working a layer of cemented sand 4 ft. thick in the open. Results have paid average wages and all incidental expenses incurred during the year.

CHARLESTON.

Powell's Sluicing and Elevating Claim.—During the year this enterprising private party has purchased and relaid 1,740 ft. of 22 in. pipe-line, to effect a more direct connection between the main race at Cronanville and the elevating plant situated on the South Beach. The water-supply now acting on the elevator maintains a mean head-pressure of 300 ft., which, if required, is capable to elevate and distribute the sands on the open tables to a height of 30 ft.; average working-height, 20 ft. The yield of gold for 1906 was 670 oz. 8 dwt. 9 gr., valued at £2,278 11s. 9d. The Charleston Beach Company having abandoned all mining operations, the property and plant were finally disposed of, the Powell party being the successful purchasers, who now work the property as a joint concern.

MURCHISON.

Walker's Maruia Gold-mining Company (M. M. Webster, secretary, Nelson).—The various works in connection with this extensive sluicing scheme were completed in the beginning of the year 1907, and the water turned on; but, relative to the future prospects of the company, it would be premature to forecast any suggestion. One thing is certain: the general aspect of the various developments and equipments is substantially and well ordered, and, according to Mr. Walker's own statement, cost will not be considered in perfecting every detail in the economy of labour and efficiency of plant.

Six-mile Hydraulic Sluicing Company.—This company is now in liquidation. James James in charge. Yield of gold for the year, 44 oz. 9 dwt., valued at £166 10s.

Horse Terrace Sluicing Company (Charles Beilby, manager).—This sluicing property, now operative on two faces of washdirt, is worked continuously with full water-supply. The pipe-line connections, electric lighting, and sawmilling installations are well maintained and in good order, and are capable of maintaining all requirements of the property. Although the auriferous drifts form an extensive face, values scarcely meet anticipations. Seven men employed. Yield of gold for the year amounted to 307 oz. 18 dwt., valued at £1,191 12s. 5d.

Hydraulic Sluicing, Fern Flat.—Since the option was acquired there has been no further work done on this property.

New Lyell Sluicing Company.—This company is now in liquidation, and Mr. George Welsh has purchased the mining privileges at public auction. Prior to commencing sluicing operations two men were engaged in effecting certain developments. In future the property will be worked under the title of the "Old Kent Road Sluicing Company."

Newton River Sluicing Company.—This company is now in liquidation, and all mining rights have been sold. There are three men employed under the charge of Mr. William Kane. Yield of gold for the year, 242 oz. 9 dwt., valued at £926 0s. 7d.

Evans and Fair having abandoned their mining privilege, Bartley and Lewis purchased the pipelines, &c., and have erected them across the Buller River for the purpose of maintaining a more efficient water-supply.

Johnson's Creek, Matakitaki River.—August Stackpool and party (four men), with full supply of water, maintain average wages.

Matakitaki River.—Mammoth Claim only finds employment for one man. There are still a few Europeans and Chinese working on the river-beaches with varying results.

Hunter's Claim.—This mining area, originally held by William White (deceased), is now owned by Hunter and party of three men. When water is available returns are satisfactory.

Mitchell and Thomson's Sluicing Claim (four men)—The owners of this property combine farming and mining as one common and profitable enterprise, with the result that mining receives first consideration when water is plentiful, and farming in pleasant weather.

There are about the same number of aged fossickers raking out the river-beaches, thereby eking out a bare living.

Fairhall and Party, of four men, continue to carry on successful sluicing operations at Fern Flat. The supply of water is fairly regular.

BOATMAN'S.

Howell and Party.—As the water-supply on this sluicing property is much dependent on the rainfall, the earning-power of the claim has been much enhanced during the recent continuous wet season, when compared with other seasons less favourable. Results for 1906 were satisfactory.

Whelan and Party (two men) continue to work their claim on the terrace lands adjoining the coal-measures, but scarcity of water is a big drawback, otherwise the auriferous values are equal to maintaining good wages.

GREY VALLEY.

Blackwater.—Since the reef formations were recently discovered in the Upper Blackwater district, alluvial mining has now taken a secondary place, particularly in the European population. The Chinese,

however, continue to maintain their former numerical strength, and if mention may be made of "John's" personal sincerity, he is satisfied with the results earned.

Dredging on the Blackwater continues to be a profitable investment. Dividends for 1906, £1,421 5s., and since work was commenced, £7,816 17s. 6d.

Orwell Creek and Napoleon Hill.—New development is practically nil, mining being confined to about twenty resident miners.

Moonlight continues to maintain about forty resident miners.

Nelson Creek.—Making mention of the gold-dredging industry on the Nelson Creek, Nelson Creek and Pactolus Companies may be considered to have been the most fortunate on the West Coast. Nelson Creek dredge: Dividends paid since registration, £23,375. Pactolus Gold-dredging Company: Dividends paid for 1906, £16,875; and since registration, £37,812 10s.

Callaghan's Creek.—With the exception of dredge employees, alluvial mining is confined to a few residents.

Half-ounce Creek, Totara Flat.—Baybot has provided a very efficient water-supply, and commenced sluicing operations near the close of the year. At time of visit a clean-up had not been made, but the owner was satisfied with the prospects so far obtained. Further up the creek a few old fossickers get an occasional pennyweight.

Fiji Terrace, Brunner-ton.—Griffiths and Williams have cleared and timbered through broken ground a distance of 112 ft., and driven 116 ft., at a cost of £64 11s.

Brandy Jack's Creek.—Duncan Steel's prospecting-tunnel has been driven 902 ft., at a cost of £90 4s.

MAORI GULLY.

There are nine parties, comprising ten men, ground-sluicing, and two parties hydraulic-sluicing when water is available.

Saunders and Party (twelve men) are now sluicing with a limited water-supply. Confident, however, of the auriferous values of the claim, extensive works are now in progress towards the construction of water-races, tunnels, &c., capable of maintaining a twelve-head supply. In connection with the scheme, one of the chief items is the construction of a siphon 21 chains in length. Preparatory to laying the siphon in position, all timber and other preliminary works are completed. Including the varied sections of work in this scheme, the completed length from intake to penstock will be seven miles and a half, comprising 1,800 ft. of tunnelling.

HOKITIKA.

Humphrey's Gully.—As stated in previous report, the whole distributing pipe-line system was rearranged to open out fresh ground at the beginning of 1906. During the year operations in this district have not only failed to maintain the former output of gold, but the values for 1906 show a decrease of £2,157 9s. 8d. as against the year 1905.

Craig's Freehold is again in the possession of the original owner, and, as a mining concern, is worked on tribute by three parties of two men each. The workings are securely timbered and well ventilated throughout, but the wages earned may be considered as a minimum. Peter Goudie and party (two men) make a bare living in rewashing the old tailings.

Back Creek.—Brooks and party (three men) are driving a tunnel to intersect some washdirt that was previously left in the old workings. The ground is securely timbered.

Harrington and Party (two men) are blocking out on a wash 7 ft. thick. Workings well ventilated and securely timbered.

Cooper and Party (four men) are blocking out on a washdirt varying in thickness from 5 ft. to 7 ft. This wash has been proved payable for a distance of 400 ft.

Webletz and Party (seven men) are blocking out on a wash varying in thickness from 5 ft. to 7 ft. Results highly payable.

Irwin and Party (four men).—This mining privilege, formerly driven out, is now operated as a hydraulic-sluicing concern.

Johnston and Party (four men).—This subsidised party is still continuing to work on good payable gold. All workings are in good order and condition.

Upjohn and Party.—To effect ventilation, connection with Johnston and party's working was recently completed, with the result that ventilation is not only restored, but a section of highly payable wash has been developed.

Hartridgen and Party (three men) continue to drive out with payable results on a wash varying from 6 ft. to 8 ft. in thickness. Ventilation and timbering receive special attention.

Knight and Party (four men) continue to drive out with payable results. Ventilation and timbering satisfactory.

Boyd and Party (six men).—The results from this hydraulic claim are satisfactory, and, according to their own words, they only hope that the adjoining claims are doing as well. During the first six months of 1906 the weekly wages earned by the parties above named averaged from £6 to £7 per man.

Minerals Company.—To obtain the maximum of economy in connection with the future working of the deep-lead deposits, the drainage-tunnel has been extended a further distance of 400 ft. Thus, with efficiency of working-conditions, plant, &c., the future prospects of the company may be regarded with promise.

SUBSIDISED WORKS.

Larrikin's.—Jamieson and Garvin have driven their prospecting-tunnel 433 ft., at a cost of £22 17s. 9d.

Arahura Flat.—R. A. Harcourt has been granted a final payment of £25 to complete his drainage-tunnel.

Chows' Terrace.—Rimu Miners' Association was granted £50 towards cost of sinking a shaft an approximate depth of 130 ft. Dimensions, 7 ft. by 3 ft. 6 in. Now completed.

Fenian Creek.—Lemon and party have driven their prospecting-tunnel 150 ft., at a cost of £15.

Arch Creek.—Boyd and party's subsidised tunnel: The balance of this subsidy will be paid for sinking instead of driving.

Lark's Terrace.—George Noble was granted a subsidy of £230 to drive his prospecting-tunnel at Lark's Terrace for a distance of 2,000 ft. Driven 1,990 ft. Paid £228 10s.

Park Terrace, Ross.—Coughlan and party have driven their prospecting-tunnel 531 ft., at a cost of £87 16s. 4d. The tunnel is now abandoned.

ROSS.

Mont d'Or (J. McKay, manager).—Sluicing has been more regular and continuous, chiefly owing to the more favourable wet season. The washdirt in the face gives good promise, while with the advantages gained with the rising bottom sluicing is much simplified and values likely to be enhanced. The varied developments in connection with this extensive working continue to be well ordered and kept in good repair and condition. Yield of gold for the year, 1,089 oz. 12 dwt., valued at £4,249 10s. Value per ounce, £3 18s. Dividends for 1906, £1,800; and since registration £42,000. Thirteen men employed.

MacLeod's Terrace.—The wet season has favoured sluicing operations; but when visited near the close of the year, sluicing was temporarily ceased for the purpose of effecting some important alterations and additions in connection with the gold-saving appliances. The various works and equipments are in good order. Yield of gold, 25 oz. 4 dwt. 15 gr., valued at £98 8s. Average value per ounce, £3 18s. Four men employed.

On the Ross field alluvial-mining has been somewhat neglected, owing largely to the demand for labour on the Hokitika-Ross Railway.

Repairs to Donnelly's Creek Bridge have been faithfully and creditably effected.

WAIHO.

Waiho Dredging and Sluicing Company (E. B. Mabin, attorney).—This company holds a mining area of 70 acres. In the early part of the year all work was suspended. Application, however, was made by some of the wages-men to work the claim on tribute, and their application was granted. The general working development and equipment of the property are in satisfactory condition. The yield of gold for the year was 110 oz. 18 dwt. 19 gr., valued at £433 6s. 5d.

The Westland Dredging and Sluicing Company (E. B. Mabin, attorney).—This company holds a mining area of 187 acres, on which operations were conducted by a party of four tributers. Regarding the development and equipment of this property, the various works connected therewith have been completed in a substantial and satisfactory manner.

Batson and Party (two men).—Notwithstanding the patchy nature of this alluvial deposit, just recently opened, the owners are satisfied with the future prospects.

Irwin and Party (two men).—When this party turn their attention to mining they get an occasional pennyweight of gold.

BLACKSANDING.

Blacksanding on the Sandfly, Three-mile, and Five-mile Beaches has been a lucrative system of mining during the late stormy weather, as the beaches named were deeply covered with payable drift. One man reported that in four hours black sand was wheeled out for treatment which yielded 4 oz. of gold. It was further reported that on the Five-mile Beach fourteen men had won gold to the value of £300 in nine days, whilst the returns from the Three-mile Beach were considered better.

At the Warden's Court, Okarito, Mr. Clouston obtained the right to convert the Alpine Lake into a dam and raise the walls an additional 12 ft. This scheme is calculated to give sufficient hydraulic power to elevate the sands on the Five-mile Beach for open-table treatment. According to information received, the capital necessary to carry out this work is already subscribed.

DREDGING.

Comparing the values won during the years 1905 and 1906, the total yield of gold for 1906 was 21,961 oz. 9 dwt. 16 gr., valued at £86,082 3s. 6d., against 238 men employed; this being a decrease on the previous year's operations of 4,708 oz. 4 dwt. 18 gr., valued at £18,709 14s. 8d., and thirty-two men less employed. Dividends paid during 1905 amounted to £25,899 7s. 6d., and for 1906 to £24,275 17s. 10d., the latter being a decrease of £1,623 10s. 6d.

MINERALS OTHER THAN GOLD.

COPPER.

Maoriland Copper-mine, Nelson.—Under the management of Mr. E. Bray (late of the Keep-it-Dark, Reefton) the development of this property continues to maintain a more practical and promising character in favour of the shareholder. In the United section the passes between Nos. 1, 2, 3, 4, and 5 levels have been thoroughly overhauled preparatory for the passing of ore and ventilation. This latter condition is well ordered. In carrying forward the leading stope on No. 5 level the ore-body measured 60 ft. in length, varying in width from 2 ft. to 18 ft. Further extension of No. 7 level

is calculated to undercut the No. 5 stone at a driven distance of 300 ft., this stone being considered the most valuable ore-body yet discovered on the property. At the Munster the principal work in progress is sinking on the main lode to prove the values at depth. At the Champion attention is restricted to clearing and repairing tracks preparatory to the transit and erection of suitable machinery to unwater an old shaft, with a view to further extension of the low levels. There was an average of thirty-one men employed.

ANTIMONY.

Endeavour Inlet (Point Edgecombe Antimony Syndicate; J. N. Dunn, in charge).—This company has seven men employed in trenching and crosscutting the various antimonial measures. Some of the outcrops have yielded 60 per cent. of metal.

Cadigan, with two men, is prospecting further north with fair success. The property has been placed on the market with the object of raising the necessary capital to effect further development.

Waine has twelve men employed on a mining privilege which embraces the Old Star antimony lease. Operations here are confined to clearing the old workings and surface-prospecting.

Resolution Bay, Blenheim.—Clouston is actively prospecting with a party of four men, but discoveries so far obtained are not important. Indications, however, are more favourable in the cross trenches, and some of the loose stones unearthed show special values, which warrant further development.

HÆMATITE.

Washbourne Brothers' Hæmatite Works.—Sales were more active nearing the close of the year.

IRON.

Parapara Iron-deposits.—So far the development of this property has been confined to the construction of a surface railway from the sea-coast to connect with the site of the proposed works.

ACCIDENTS AND FATALITIES.

QUARTZ-MINES.

Non-fatal.

Big River Mine.—15/1/1906: Thomas O'Connor, miner, sustained compound fracture of right leg, fracture of collar-bone, and fracture of four ribs by fall of mullock in stope.

Golden Fleece Mine.—4/9/1906: John Phillips, miner, sustained bruises to leg and side by fall of stone in the face.

ALLUVIAL MINES.

Fatal.

10/2/1906: Samuel Lattimer was killed by fall of roof in his claim at Rocky River through insufficient timbering.

DREDGES.

Fatal.

Jamieson's Reward.—3/3/1906: Albert Banks, winchman, was drowned by falling overboard into dredge paddock.

New Trafalgar.—30/10/1906: James Cumming, master, was fatally injured by being caught in shaft of elevator.

Non-fatal.

Three-mile, Greenstone.—8/1/1906: John Ryan, winchman, sustained fracture of leg above ankle by trays slipping and jamming leg against shoot.

I have, &c.,

ROBERT TENNENT,

Inspector of Mines.

The Under-Secretary, Mines Department, Wellington.

Mr. E. R. GREEN, Inspector of Mines, Dunedin, to the UNDER-SECRETARY, Mines Department, Wellington.
SIR,—

Office of Inspector of Mines (Southern District), Dunedin, 28th March, 1907.

I have the honour to forward the accompanying report by the Assistant Inspector of Mines and myself on quartz-mines, hydraulic and alluvial mines, and gold-dredges in the Otago and Southland Districts for the year ending the 31st December, 1906.

QUARTZ-MINING.

OTAGO.

Shotover.

Mount Aurum Gold-mining Company, Bullendale (F. T. Ware, mine-manager).—The block of stone opened up in the British-American line of reef was extracted and crushed during the earlier part of the year. The works were shut down for the winter as usual, and from a variety of circumstances have not been restarted.

Shotover Quartz-mining Company, Skippers (T. O. Bishop, mine-manager).—Mining operations at this mine were quiet during the year. Work is now confined to the main level, which is being pushed ahead with the expectation of opening up a further shoot of payable quartz. The mine is well equipped with battery and cyanide plant.

Macetown.

Premier Sunrise (New Zealand) Gold-mining Company, Macetown (William Patton, mine-manager).—As indicated in last year's report, the mine-manager, acting on instructions from the London board of directors of the company, stopped all operations, closed down the mine, and offered the mine and plant for sale. The property was purchased by Messrs. Sligo Bros., who have not, however, reopened the mine. The water-power available is being used to work the Premier Gully by hydraulic sluicing and elevating.

New Zealand Consolidated Gold-mines (Limited) (L. O. Beal, jun., legal manager, Dunedin).—The employment of a few men at various times during the year is the only evidence that interest is still taken in these mines.

Mr. Farrell, the owner, is still in England, with the object of forming a company to work the property. The manager reports, "The mine has been idle since October, 1904, when a crosscut tunnel was driven as an intermediate level to cut the Homeward Bound reef. The crosscut was 210 ft. in to the reef, and the drive was extended 50 ft. along the reef. The backs gained by this level were 223 ft. This tunnel was cleaned out and timbered up at the latter end of 1906, when the claims were jumped, and settling up the jumping cases exhausted the funds of the company in New Zealand. It is understood that a new company is being formed."

D. McKay and Party's Quartz Claim, Caledonian Gully, Macetown.—Area of lease, 20 acres. The area has been increased by the purchase of Balch's lease. The acquisition of this lease will enable both claims to be worked to better advantage. McKay and party have worked their mine to advantage during the year. The tailings and concentrates are being saved with a view to future chemical treatment. The mine-workings are in good order. Timber well used. Ventilation good. Four men employed.

Anderson, Hannah, and Party's Quartz Claim, Scanlon's Gully, Macetown.—This party have continued to prospect and develop their property during the year. A five-head battery is to be erected, previous crushings having been performed at McKay and party's battery.

Cromwell.

Cromwell Mine Syndicate's Quartz-mine, Bendigo.—During the year this property was purchased by J. Stevenson, Dunedin Engineering Works. A small company was formed to resume operations. The water-races were repaired and a pipe-line laid down. Sluicing was then commenced on the terraces bordering the Bendigo Creek. It is understood that it is not the intention of the syndicate to resume operations on the quartz reef at present.

Bannockburn.

Go-by Quartz-mine, Carrick Range (J. B. Holliday, owner).—Active operations were not continued at this mine during the year. Exhaustive tests of the stone from this mine and elsewhere on the Carrick Range, made at the Colonial Laboratory, proved that the values could not be saved by plate amalgamation or by the chlorination process, but that the cyanide process followed by amalgamation gave excellent results. As an alternative it was suggested that the concentrates could be shipped to Dapto, New South Wales.

Messrs. Laurence Bros., Carrick Range.—This party own the Star of the East and Day Dawn batteries. No progressive work is being undertaken. Operations are confined to mining and crushing small parcels at intervals.

Carrick Range.—Some attention has been directed to the quartz reefs and mineral lodes of this range during the latter part of the year. With the exception of the work done by the Antimony Syndicate, operations as yet are confined to the prospecting stage.

Bald Hill Flat.

White's Reef, Bald Hill Flat (R. T. Symes).—During ground-sluicing operations some good blocks of stone were met with from time to time. These were saved and put through the battery. An extension of the lode having been discovered in solid country, a drive was put in and some good quartz extracted.

The Excelsior battery (Gray reef) was purchased and removed to the new mine. Mr. Symes is hopeful that operations in the new mine will be more profitable than during the past few years.

Excelsior Mine, Bald Hill Flat (R. Gray, owner).—The shoot of stone having pinched out in depth in the level, underground operations were discontinued, and the owner resorted to ground-sluicing on the surface. This work was not attended with success, and Gray abandoned the mine. The battery was sold to R. T. Symes for removal to White's reef.

Campbell's Gully, Obelisk Range.—A syndicate composed principally of Roxburgh shareholders has secured a lease over Parker's reef, Campbell's Gully. The shaft sunk to a depth of 50 ft. many years ago will be extended to a depth of 100 ft. or more. Should the reef be proved continuous in depth, a battery will be erected.

Alexandra.

Conroy's Gully Reef, Alexandra (J. Robertson and party, owners).—Unfortunately, the continuity of the reef was cut off by a slide, and as the party were unable to mine the stone from depth owing to

the absence of suitable winding and pumping machinery, the venture was abandoned. The property is now in the hands of Mr. Thomas Craig, but J. Robertson utilises the battery to crush surface stone. A few tons of stone saved from the sluicing claim have been crushed for McCarthy.

Waipori.

There has been no movement made in connection with quartz-mining in this district during the year. The O.P.Q., Bella, Cox's, Canton, and other reefs are still lying unproductive. There is a tendency throughout the Otago Mining District to revert from alluvial mining to the more permanent forms of reef and lode mining, and thus it is only a question of time when attention will again be directed towards the quartz reefs of the Waipori district. The O.P.Q., Bella, Canton, Victoria, and Cox's reefs would all repay any outlay, provided that cheap power could be obtained for winding and crushing.

The antimony-mine situated on the Lammerlaw Ranges, first opened about 1875, is again being developed by A. C. Buckland. Scheelite occurs associated with the antimony.

Eaton and party have repegged the Reedy Creek Copper-mine and water-rights. This mine has not been worked since 1882.

Milton.

Last Chance Quartz-mine, Canada Reefs (Thomas Park, owner).—For several years this mine was a consistent gold-producer. It is to be regretted that the shoot of stone gave out early in the year, since when operations have been at a standstill pending the erection of more suitable machinery to prosecute the work further to depth. It is understood that it is the intention of the owner to recommence operations at once.

Ocean View Quartz Reef, Table Hill, Milton.—Owing to the extremely dry weather prevailing it was impossible to crush at Park's battery, which is water-driven. No advance has been made during the year in connection with working any of the known reefs on a comprehensive scale, although some prospecting has been done by Park and Hawkins.

Macrae's.

New Zealand Gold and Tungsten Company, Mount Highlay (Messrs. W. and G. Donaldson, owners).—Area, 90 acres. This mine was opened up during the year for the production of gold and scheelite. There is a large body of stone on the property, from which the material is conveyed to the battery by a three-rail incline ground tramway. The present plant consists of one Mason rock-breaker for rough crushing, one Blake-Marsden for fine crushing, one 5 ft. Huntingdon mill, and one Wilfley table. It is intended to increase the size and power of the plant.

Highlay Gold and Scheelite Mining Company, Mount Highlay (J. O. Gilmour, secretary, Dunback).—This property was opened out to mine for gold and scheelite. Operations were not attended with the amount of success anticipated, and the mine was closed down again. This company is now re-erecting a five-head battery lately owned by H. N. Mills and Son. The new mine is close to the New Zealand Gold and Tungsten Mine, Mount Highlay, and the reef carries values in gold and scheelite. A Frue vanner is being installed.

Golden Point Quartz-mine, Macrae's (W. and G. Donaldson, owners; W. Donaldson, mine-manager).—Messrs. Donaldson Bros. continue to work this extensive property on progressive lines. The mine-workings are in good order. Timber well supplied and freely used. Ventilation good. Explosives well stored and carefully handled. Rules posted. Scheelite is still prepared for market. This mineral occurs throughout the reef, sometimes in very rich pockets or bunches. A comprehensive exhibit of the products of this mine was shown at the International Exhibition, Christchurch. Thirty men are employed in and about the mine and battery.

Barewood.

Barewood Quartz-mine, Barewood (H. S. Molineaux, mine-manager).—The extension of the shaft in depth has been completed to 249 ft. A crosscut was driven from the 240 ft. level to crosscut the reef in a distance of 66 ft. A level was then turned off along the reef to the west, and has been driven 240 ft. to date. The level has also been driven 20 ft. to the east. All work is now confined to driving this level and stoping to the rise. The mine is in good working-order. Ventilation good. First-class timber used. Explosives carefully stored and handled. Shaft and shaft-fittings in good repair. Sixteen men employed in and about the mine and battery. Tailings saved and treated by cyanide. Later advice is to the effect that the company has several years' stone opened up for crushing. This is low grade, and requires to be handled cheaply and in bulk. The present five-head battery is to be increased by the addition of five extra stampers, and the oil-engine is to be superseded by a producer-gas plant.

Harrison and Ewart's Area, Barewood.—This party treated 23 tons of ore with a view to getting the value of the scheelite it contained, with the result that 13 cwt. of scheelite was obtained. The ore was crushed at the Barewood Company's battery.

SOUTHLAND.

Preservation Inlet.

Morning Star Quartz-mine, Preservation Inlet (John Kingsland, secretary, Invercargill).—This mine has been idle for several years, but a new company is being formed in order to recommence operations in the near future.

South-west Otago is a large field, proved to contain auriferous reefs, but the district is heavily wooded and practically unprospected.

HYDRAULIC SLUICING AND ALLUVIAL MINING, INCLUDING GOLD-DREDGING

Livingstone.

Mr. John Christian's sluicing claim continues working steadily.

A few other claims in this district are in operation as water-supply serves.

Maerewhenua.

The several sluicing claims continued in operation during the year.

The limited water-supplies from the Mountain Hut and private water-races render work on this field somewhat intermittent.

From twenty to thirty men, in private parties, continue in remunerative employment.

Glenore.

Renewed attention has been given to the district lately, and the large alluvial flat known as Adam's Flat has been pegged off, with the intention of working it by some form of steam-pumping plant. The flat is rich, having derived its auriferous contents from the belt of breccia conglomerate which traverses the district.

Some fossicking is still being done in the vicinity of Canada reef.

The Gold Bank dredge, under private ownership, continued to work with indifferent results throughout the year.

Manuka Creek.

Manuka Gold-mining Company (Limited), Manuka Hill (Adam McCorkindale, manager; R. Pilling, jun., secretary, Lawrence).—Many years ago very rich returns were obtained from a claim on this hill known as Coombe's. The material is a quartz grit, and requires quick treatment. Unfortunately, the water-supply is inadequate, but the present proprietors have effected much improvement. Four men are employed.

Waitahuna.

Frank Whelan's Sluicing Claim.—Reference has already been made to the possibility of working many hitherto unworked areas by a system of pumping. This area consists of 60 acres of ground, partly worked by hand-labour. The breccia-conglomerate deposit also appears in the claim. It is proposed to generate electrical power at the falls in the Waitahuna River, and transmit the power a distance of five miles to a pumping-station on the bank of the Waitahuna River. Centrifugal pumps in series, or any other suitable form of pump, will be installed to lift water at sufficient pressure to provide power to work the ground by the ordinary system of hydraulic sluicing and elevating.

Waitahuna Flat.—This flat has been actively operated upon by hand-labour and by dredges. By these means, however, only the superficial gravels have been worked. There still remains the deep ground underlying the superficial gravels. Several attempts have been made to bottom this deep ground by shafts, but without success. The breccia-conglomerate deposit appears in the terraces rising from Whelan's claim. Systematic boring should be resorted to in order to prove the value of this large area of ground.

Coghill's Hill.—Several acres of a deposit of quartz gravel and grit about 20 ft. in thickness occur on the crown of this hill at an elevation of about 800 ft. above the level of the Waitahuna Flat. The deposit is payably gold-bearing if treated by a water-supply, but the area is too small to encourage the necessary outlay upon waterworks. A similar deposit exists on Sutherland's Hill, adjoining Coghill's.

Upper German Flat Hydraulic Sluicing Claim (Frank Bell, manager).—This claim is privately owned, and affords remunerative employment to the working shareholders.

Dredging.—The Havelock and Imperial dredges still continue to operate on this flat, but to all appearances these claims will soon be worked out. At one time five dredges were in operation on the flat working the superficial gravels.

Waitahuna Gully.

There is little, if anything, fresh to report from this locality. The five hydraulic sluicing and elevating claims continued to work throughout the year with varying success.

The successful operations of the Waitahuna Company's claim afford still further proof of the superiority of the hydraulic system over that of dredging upon hard, uneven bottom.

Weatherstone's.

During the latter part of the year the drought caused a decided shortage of the water-supply, which interfered with continuous operations.

The Golden Crescent and Golden Rise claims continue to work with successful results.

The only change was the erection of a plant in Paulin's Gully. The water-supply for this claim is inadequate.

The deep-level cement-beds in this locality have attracted very little attention for many years.

Tuapeka.

Bluespur and Gabriel's Gully Consolidated Gold-mining Company, Bluespur (J. Howard Jackson, general manager; J. Uren, mine-manager).—Sluicing operations during the season have been considerably hampered by shortage of water-supply, due to prevailing drought. As an indication of the amount of work done and material removed, it may be mentioned that the hill or spur whence the mine takes its name no longer exists, and the claim is now an immense open cut, the floor of which, at the eastern

boundary, is some 70 ft. below the surface of its own tailings-bank occupying Gabriel's Gully. The line of fault forming the northern boundary of the claim is clearly exposed, direction east and west, downthrow south, angle of inclination 45 degrees.

Local Industry Gold-mining Company (W. O. Dawson, manager).—During the year the plant was transferred from Weatherstone's to the lower portion of Gabriel's Gully, and a start was made to rework the bed of the gully. Several paddocks were taken out, but with indifferent results, and the plant and claim has been since offered for sale. The extension of this water-race by means of a siphon across Gabriel's Gully and a race cut five or six miles would command extensive areas of auriferous ground, but the construction would be costly.

Kitto and Party's Hydraulic Sluicing and Elevating Claim, Munro's Gully.—This claim has been at work for many years on the Munro's Gully side of the breccia-conglomerate deposit worked by the Bluespur and Gabriel's Gully Consolidated Gold-mining Company. The *modus operandi* is to bring down large masses of the cement with blasts of roburite, and further reduce it by hammer and gadspawling, the material being then sluiced to the elevator. Eight men are employed.

Tuapeka Sluicing Company, Munro's Gully (P. P. Thomas, manager).—Area, 51 acres. The claim is worked by hydraulic sluicing and elevating, and operations during the year were carried on with success. Six men employed.

P. P. Thomas's Claim, Munro's Gully (C. Thomas, manager).—Terraces bordering Munro's Gully are being sluiced with water under low pressure. Four men employed.

Lower Tuapeka River.

Tamaiti Gold-mining Company, Tuapeka River (N. K. Wakefield, manager).—In 1903 a scheme was suggested in which, by utilising a large body of water on a low head to drive a powerful turbine, power could be obtained to actuate centrifugal pumps in series to raise sufficient water under pressure to sluice the terraces. During 1905 the scheme was taken up by the Tamaiti Gold-mining Company. A dam was erected across the Tuapeka River to raise the water 30 ft. in height. A James Liffel single-discharge horizontal turbine was installed to provide power to actuate combination centrifugal pumps. The plant was started to work in November, 1905, and has since been working satisfactorily, good returns of gold having been obtained from the claim. This company is making application for a second dam-site and water-race license on the adjoining claim.

[E.] Thomas McLeod and Party, Tuapeka Mouth.—As was only to be expected, the success of the Tamaiti Gold-mining Company has induced others to take up claims to be worked on the same principle. As this system merely involves the utilisation of a large body of water under a low head, it may be applied wherever the conditions are favourable. There are, however, large areas of auriferous ground throughout Otago and Southland where it is impossible to apply this system as regards utilising water-power. It is now proposed to utilise oil-engines or producer-gas plants to provide the necessary power for pumping purposes.

Waipori.

Bakery Flat Hydraulic Sluicing and Elevating Company, Upper Waipori (John T. Johnson, manager).—In 1904 J. T. Johnson designed a novel dredge, known as the submerged jet dredge, in order to bottom the lead. Unfortunately, although the dredge proved capable of dealing with an enormous amount of material, the operations were not financially successful before the deep lead was reached. A hard bar also interfered with progress towards the lead. The water-races and sluicing plant were then put in thorough working-order, and a start made to bottom the lead by hydraulic sluicing and elevating. Additional power was derived from the Golden Point Company's water during the latter part of the work. Aided by a subsidy authorised by the Mines Department, the work was put in hand during 1906 and successfully carried out. Bottom was reached at a depth of 78 ft. from the surface of the valley. The material passed through was found to be payably auriferous, while the bottom wash proved extremely rich. On this paddock being worked out the plant was then shifted to the head of the lead, and operations there have been attended with success.

O'Brien and Others.—As was only to be expected, the success attending the operations of the Bakery Flat Company on the deep lead have aroused interest in the possibility of working other portions of the lead. It is now proposed to bring in a large body of water, twelve or sixteen miles, from the Waipori River to work the deep lead. A survey of the line of race is now being made by Mr. L. O. Beal, jun., mining engineer.

R. J. Cotton's Dam-site, Waipori River.—It is proposed here to apply the principle of pumping water as adopted by the Tamaiti Claim, Tuapeka. There is a splendid natural dam-site at Ballarat Gorge, Waipori River, and should a sufficient quantity of water be available for the purpose, electrical power could be furnished from this site to operate dredging and reefing machinery as well as electric-lighting plants.

There is little else of interest to narrate regarding the hydraulic sluicing and elevating claims in the Waipori district. These continued to operate with fair results, although the extremely dry weather has shortened the water-supply.

Dredging.—There were eight dredges at work in the beginning of the year, but this branch of the industry is now represented by five dredges in active operation. Two of the working dredges are worked by O'Brien's application of water-power.

Beaumont.

Plunket Gold-mining Company.—Formerly the property of the Champion Sluicing and Elevating Company (Limited), this property was purchased by the Plunket Gold-mining Company. The

latter company was not successful in its operations, and portion of the plant has since been disposed of to the Olrig Gold-dredging Company, Alexandra, for use in the erection of a plant to drive the dredge by O'Brien's application of water-power to dredges.

Buchanan's Sluicing Claim, below Beaumont.—This claim is situated on a terrace composed of river gravels. The water-supply is poor, but the owner has improved the plant.

Dredging.—The New Paul's Beach dredge, situated seven miles below Beaumont, and owned by Mr. William Adams, Dunedin, is the only one in the district. Owing to the unfavourable state of the river during the past year dredging has been intermittent.

Island Block.

Island Block Gold-dredging and Sluicing Company, Island Block (D. Weir, Manager).—Hydraulic sluicing and elevating operations have been steadily conducted during the year. Dredging operations have not been resumed. The company employed an average of fourteen men during the year.

Tallaburn Hydraulic Sluicing Company, Currie's Flat, Tallaburn (John Whelan, manager).—There is nothing fresh to report concerning this company's extensive operations. A large area of ground has been sluiced away with good results. Seven men employed.

Cooper and Party's Hydraulic Sluicing Claim, Horseshoe Bend.—This party continue to operate on their claim with by-wash water from the Island Block Claim. Two men employed.

Gunton's Beach Hydraulic Sluicing Claim (Madden and Myers, owners).—This claim has been proved to be rich, but the great drawback is the want of a suitable water-supply.

Dredging.—The Otago No. 2 dredge continued working during the year with good results. Johns and party's dredge started work early in the year, but with indifferent results. Jones and party purchased Pringle and party's No. 1 dredge, and shifted it to the foot of Gunton's Beach, but operations have not been very successful.

Miller's Flat.

Golden Run Hydraulic Sluicing and Dredging Claim.—This company's large dredge is now working in the flat clear away from the river, and depends upon the water from the pipe-line for paddock water. Portion of this water is also used for stripping off the great overburden of loam ahead of the dredge. This company employs an average of thirteen men.

Dredging.—In this district nine dredges continue in operation on the Clutha River. With two exceptions these dredges are large up-to-date machines, capable of treating an enormous quantity of material. Six of the dredges are working into the bank portions of their claims, and proving the existence of payable wash.

Kelso.

Duntulm Hydraulic Sluicing and Elevating Claim, Pomahaka River.—This claim was worked for several months in the early part of the year with fair results. Owing to the altitude work cannot be carried on during a few weeks of the winter, while the lengthened spell of dry weather hindered sluicing operations towards the end of the year.

Rise and Shine Claim, Pomahaka River.—The difficulty presented by this claim, and which the various attempts made failed to overcome, was the successful bringing-up of a long deep tail-race through a rocky gorge, so that ground-sluicing operations might be carried on. The flat is known to be rich, but, being difficult to work, no serious attempt has been made of late years to open up the ground.

Dredging.—Unfortunately, the Kelso dredge, which started operations during the year, did not meet with success, and has been sold for removal. The Ardmore, a private concern, continued to operate successfully on Ardmore Estate.

Campbell's Gully.

Campbell's, Potter's, and the Upper Waikaia River districts, embracing gullies, creeks, and terraces on the slopes of the Old Man and Whitecombe Ranges, within the watershed of the Waikaia River, are localities which have yielded a large amount of alluvial gold to the miners. Increased attention is being given to these places for hydraulic sluicing, and with good water-power and plenty of ground available this field should yet yield quantities of gold.

Campbell's Flat is an extensive deep wet flat so far unprospected, but with good prospects, inasmuch as Campbell's Gully is famous for its past richness.

Water-rights are held in this locality by John Bennetts and Parker Bros., Roxburgh.

Dumbarton.

Anderson's Flat.—A Dunedin syndicate are testing this flat by systematic boring, with the intention of ultimately working the ground by hydraulic sluicing and elevating. For this purpose the water-supply hitherto in use on the Hercules Claim, Roxburgh, will be used. The results from several bores put down are said to have been favourable. There is an extensive area of ground here, presumably containing an ancient course of the Clutha River, with outlet at Ettrick and Miller's Flat districts, which have proved and are proving highly auriferous.

Roxburgh.

Roxburgh Amalgamated Mining and Sluicing Company (Limited) (J. H. Waigh, manager).—This is the largest hydraulic-sluicing claim in the district. Operations are carried out systematically and successfully, due regard being given to the safety of the employees. Fourteen men employed during the year.

Ladysmith Gold-dredging Company (Limited), East Roxburgh (W. Donnelley, manager).—Hydraulic sluicing and elevating operations were continued on this property with satisfactory results during the year. Nine men employed.

Commissioners' Flat Sluicing Claim (Coulter and party; R. George, manager).—Sluicing operations have been continued on the same lines as formerly with satisfactory results. Four men are employed.

Pleasant Valley Hydraulic Sluicing Claim, Coal Creek (McPherson Bros., owners; F. Swanwick, manager).—This claim is worked by hydraulic sluicing and elevating. Eight heads of water are in use under a vertical pressure of 300 ft. The material is elevated 20 ft.

Dredging.—Five dredges continue to operate in this district on the Clutha River. Three of the working dredges are privately owned.

Baldhill Flat.

Carroll and Lynch are still operating on a small area of ground hitherto considered as too low-grade for working.

The Last Chance Company is now working terrace ground by ground-sluicing.

Duntulm Hydraulic Sluicing Party, Fraser Basin (William C. Nicholson and party, owners).—The plant formerly in use on Ewing and Dowdall's claim has been purchased by the above party, and is to be transferred during the summer to the Fraser Basin, at the head of the Fraser River, Obelisk, or Old Man Range. This flat comprises several thousand acres of practically unprospected ground, but the river bed and banks below yielded excellent returns of gold to European and Chinese miners.

Dredging in the Gorge.—The new Fourteen-mile Beach Gold-dredging Company's dredge was successful in winning 689 oz. of gold during the year, although the river was unfavourable for dredging for the greater part of the time.

Naseby.

The usual number of sluicing claims continue to work with water mainly derived from the Government water-race. There are several parties working with privately owned water-supplies.

Owing to the unusual dryness of the season and the light fall of snow in winter, the supplies of water for mining were more curtailed than is usually the case.

Patearoa.

Patearoa Hydraulic-sluicing Claim (D. C. Stewart, manager).—This hydraulic-sluicing plant continues to operate with successful results. Eight heads of water are used under a vertical pressure of 192 ft. The material is sluiced 30 ft.

John Johnston's Hydraulic Sluicing and Elevating Claim, Caledonian Gully, Patearoa.—Good returns of gold are obtained from this claim, which affords employment to three men.

Upper Taieri River.

Taieri Falls Sluicing and Electric Power Transmission Company (Limited) (John Tyson, mine-manager; E. Trythall, secretary, Dunedin).—This property was formerly owned by the Canadian Flat Hydraulic Sluicing and Electrical Power Company, and has now been acquired by the former-named company. The water-race, which was partially constructed several years ago, is now being completed, and preparations are being made to equip the claim with a suitable plant recently in use at the Red Swamp, Teviot district. There is an extensive field here for mining purposes, and the company has acquired valuable water-rights from the Taieri River in the vicinity of the Taieri Falls.

There are a number of sluicing plants at work throughout this district, which embraces the extensive watershed of the Upper Taieri River.

Fortification Hydraulic Sluicing Company, Red Swamp, Lammerlaw Ranges.—The operations of this company were unsuccessful, and have been suspended. The sluicing plant has been sold for removal to the Taieri Falls Sluicing and Electrical Power Transmission Company's property at Canadian Flat.

Serpentine.

George Banbury and J. Weatherall's Hydraulic Sluicing and Elevating Claim affords employment to three men, and good results are obtained.

Deep Stream.

Deep Stream Amalgamated Sluicing Company (Limited).—This claim continued to be worked with poor results during the early portion of the year. The company then went into liquidation, and the plant and claim were sold to William Adams and others, who have resumed work.

St. Bathans.

Scandinavian Water-race Company, Surface Hill (Neil Nicolson, manager).—Total area of claims, 140 acres. Twenty-five heads of water are available under a vertical pressure of 380 ft. The water is brought in in races—in all, over ninety-six miles in length. Two elevators are used, and the material is lifted a total height, in two lifts, of 140 ft. During 1905 an area of three-quarters of an acre is stated to have yielded 1,029 oz. of gold. The gold is fine, and is saved with the usual angle-iron ripples and coconut matting.

Scandinavian Water-race Company, Kildare Hill.—Work was resumed on the Deep Lead Claim (formerly the property of Mr. John Ewing) toward the end of the year. On the water being pumped out of the paddock it was found that the lower lift had become filled with gravel, and the semi-vertical walls above, softened by water-standage, had assumed a batter consistent with safety, and very little

delay occurred in getting to work again. Paddock, 6 acres in area; elevating 90 ft. under a pressure of 375 ft. vertical; twelve heads of water used.

United M. and E. Water-race Company (Patrick O'Regan, mine-manager; William Pyle, legal manager, St. Bathans).—This claim is worked by hydraulic sluicing and elevating on an extensive scale. Fifteen heads of water are conveyed from the company's dam over twenty-five miles of water-races. One elevator lifting 64 ft. is employed. The pressure at the elevator-jet is due to a vertical head of 400 ft.

Cambrian's.

Vinegar Hill Hydraulic Sluicing Company (J. Morgan, mine-manager; E. Morgan, secretary, Cambrian's).—Operations are conducted on this claim on an extensive scale. Twelve heads of water are brought in a distance of twenty miles, at an elevation of 500 ft. vertical height above the claim. One elevator is used, the material being lifted 110 ft.

Matakanui.

Undaunted Gold-mining Company (T. C. Donnelly, mine-manager).—This claim is worked by the hydraulic sluicing and elevating system. The average supply of water available is thirty-five heads, portion of which is delivered at the claim under pressure resulting from a head of 420 ft. vertical, and portion from 320 ft. vertical. The material is elevated from 45 ft. to 60 ft. in height according to the depth of ground worked. The water-races are over thirty miles in length. Length of pressure-pipes, 6,000 ft.

Tinker's Gold-mining Company (J. Naylor, mine-manager; T. Duggan, secretary).—This claim is worked by hydraulic sluicing and elevating. Twenty heads of water are brought in a distance of six miles to command the claim at an elevation of 600 ft. vertical. One elevator is used, through which the material is elevated 60 ft. Seven men employed.

Matakanui Gold-mining Company, Matakanui (W. Norman, mine-manager and secretary).—This claim is worked by hydraulic sluicing and elevating. Twelve heads of water are used under a vertical pressure of 200 ft. The material is elevated 60 ft.

Mount Morgan Sluicing Company, Matakanui (James Percy, mine-manager; J. D. Nicolson, secretary).—Area of claim, 60 acres. Since the company started work in October, 1903, 8 acres of ground have been worked for a yield of 537 oz. Ten heads of water are available under a vertical pressure of 120 ft. The material is elevated 25 ft. Four men are employed.

Ophir.

The Black's dredge, started during the year, has worked with fair success.

There is a large area of auriferous ground in the flat and on the terraces which would pay well for sluicing. There is no doubt that the extension of the Alexandra Water-race in this direction would command a large extent of auriferous ground.

Alexandra South.

During 1905 the Government purchased the various dams and water-rights, water-races, and plant belonging to the Alexandra-Bonanza Gold-dredging and Sluicing Company. The necessary expenditure having been authorised, a start was made to improve the water-races and extend them to command a large tract of auriferous country known as the Galloway Terraces. This land was all prospected well, but has hitherto been unworkable on a large scale owing to the absence of suitable water-supplies, which being now available, it may reasonably be expected that this district will afford a large amount of remunerative employment.

Golden Bend Gold-mining Company, Alexandra South (Wallace Carr, manager).—This claim has been proved to contain rich auriferous wash. A plant on the principle of a dredge ladder and buckets driven by steam-power has been installed, but is inadequate to deal effectively with the large body of material encountered.

Tucker Hill Claim.—An attempt was made to work the cement-deposit by means of a rock-breaker driven by a portable engine. The efficiency of this plant was low, which, combined with the want of a suitable water-supply, compelled the owners to cease operations.

Dredging.—The dredging-season during 1906 was again unfavourable for gorge dredging on account of the high state of the Clutha or Molyneux River, and travelling drift. There are still five dredges below the Alexandra Bridge. Fourteen dredges continue to operate on the river or in the banks between Alexandra Bridge and Muttontown Gully. Two of the old type of dredges are laid aside as useless in their present positions, as operations are now chiefly confined to the bank claims. On the Earnsclough side the dredges are supplied with water from the Fraser River, and thus work independently of the Clutha River. On the Dunstan side operations are so carried on that the heavy current of the river is directed against the banks, and assists in carrying away the non-auriferous material. Four privately owned dredges are at work on the Manuherikia River flats, while the Olrig, owned by a public company, is being fitted with O'Brien's application of water-power to dredges in lieu of steam-power hitherto used.

Clyde.

With the exception of a few men at work in Blackman's Gully and on the banks of the Clutha River, sluicing operations are at a standstill in this district.

Two dredges continued at work during the dredging-season in the vicinity of Clyde, while the Unity dredge has been sold for removal to the Waikaia dredging-field.

Cromwell.

For many years this has been pre-eminently a dredging district, being favourably situated with respect to the Clutha and Kawarau Rivers. Between Cromwell and Waitiri, on the Kawarau River, there were five dredges in operation during the dredging-season. Below Cromwell, on the Clutha River, two dredges continued to work when the river was favourable, and one operated successfully in the Clutha Gorge above Cromwell Township. During the year eight dredges were in operation in the Clutha Basin at Lowburn, only three of which, by reason of their superior power and capacity, were capable of dealing effectively with this class of ground. One has since been dismantled and transferred to Victoria.

There are extensive tracts of known auriferous ground in this district capable of supporting a large mining population, but the absence of suitable water-supplies prevents the working of these deposits. It has been proposed to convey water by means of a pipe-line from the Roaring Meg Stream to command Cromwell Flat for mining and agricultural purposes. The utilisation of the power of the Kawarau or Clutha Rivers to raise water for the above purposes is within the bounds of possibility.

Bendigo.

The Bendigo property, comprising the quartz-mine, winding and crushing plant, and water-rights, was bought by Stevenson and party. The water-races were improved and a line of pressure-pipes was laid down. The water was then used for sluicing terraces overlying Bendigo Creek. Operations were hampered owing to the dryness of the season.

Cardrona.

Criffel Lead Sluicing Company (Limited), Cardrona (E. Trythall, secretary, Dunedin; Dugald MacGregor, manager).—As stated in last year's report, this company secured a large area of ground on Criffel Face and a plentiful water-supply. The water-race was cut in, the sluicing plant laid down during the year, and sluicing operations commenced. Progress was retarded from the start by the heavy overburden of rocks, and considerable difficulty was experienced in opening out on the lead. Opening-out operations had not been completed at the end of the year. The average number of men employed during the year was twenty.

Walker Little's Hydraulic-sluicing Claim, Cardrona Valley (Ed. Barker, manager).—Operations have been continued in this claim throughout the year. Twelve heads of water under a vertical pressure of 320 ft. are used. The material is elevated 31 ft.

Branch Creek.—It is now proposed to extend Lafranchi's water-race from the Cardrona River, a distance of four miles, to command auriferous ground in Branch Creek.

Dredging.—Two dredges were at work during the greater part of the year, one of which is driven by water-power. Works are now in progress to adopt water-power on the Lone Star dredge also.

Luggate.

Sluicing operations on a small scale are carried on in Luggate Creek. The absence of suitable water-supplies prevents the systematic working of the large alluvial deposits in this locality.

Dredging.—The Albertown dredge, owned and worked by a party of working shareholders, is still the only one at work in this locality.

Boring operations have been carried on in the Luggate Creek with good results, and it is proposed to erect a dredge thereon.

Arrow River.

Arrow Falls Sluicing Company (J. Shanks, manager).—After years of arduous work bringing up a tail-race through the gorge, the claim is now well opened out on the flat. Work is now carried on by hydraulic sluicing and elevating, for which purpose a good water-supply is available.

Macetown.

Anderson and Party, Eight-mile Hill, Arrow River.—Ground-sluicing. Three men.

William Reed and Party, Red Hill, Arrow River.—Ground-sluicing.

Sligo Bros., Premier Mine, Macetown.—This party are trying to bottom the Premier Gully by hydraulic sluicing and elevating. The gully is deep, and scarcity of water has hindered completion of operations.

Richard Enoch's Claim, Arrow River, Macetown.—This claim, situated in the bed of the Arrow River at the foot of Twelve-mile Creek, is worked by hydraulic sluicing and elevating.

Glenorchy.

Valpy Bros.' Claim, Glenorchy, Head of Lake Wakatipu.—Area of claim, 9 acres. Three men find employment in this claim, which is worked by hydraulic sluicing and elevating.

Queenstown.

Reid and Lee, Twelve-mile, Lake Wakatipu.—This hydraulic sluicing and elevating claim continued in operation during the year.

Arthur's Point.

Arthur's Point Hydraulic Sluicing and Elevating Company, Arthur's Point, Shotover River (McMullan Bros. and Phelan, owners).—This plant continues to operate in the bed of the Shotover River, below Arthur's Point. Two heads are used, under a vertical pressure of 330 ft.

Dredging.—The career of the Wakatipu Gold-dredging Company's dredge has been one of misfortune. The dredge has again sunk, and has not been raised. The Shotover River gorge is narrow and rocky, and the river is subject to sudden rises, which cause the dredge to be silted up.

Moonlight.

Moonlight No. 2 Claim, Moonlight Creek, Queenstown.—This claim, which is worked by hydraulic sluicing and elevating, has been let on tribute to four men.

Shotover.

The valley of the Shotover River, with its tributary creeks, continues to afford employment to a small mining population in the various sluicing claims. These are all worked on the ground-sluicing principle, the sluiced material being discharged into the river. During the winter months, when the snow is frozen on the mountains, the level of the Shotover is low, and then the bed of the river is worked by wing-damming and by Smith's jet-pump system.

This has been one of the permanent goldfields since the year 1862, and it will continue as such for many years to come.

The usual number of claims were worked during the year.

SOUTHLAND.

Nevis.

Hogg and Party's Hydraulic Sluicing and Elevating Claim, Nevis (John McLean, manager).—The construction of the water-race was completed towards the end of the year, and a start was made to lay down the plant so that operations should be in full swing early in 1907. The company has a good water-supply, which commands a large area of auriferous ground. Five men employed.

Our Mutual Friend Hydraulic Sluicing and Elevating Claim (Masters and Adie Bros.).—Operations are conducted on the usual lines with satisfactory results. Height of lift, 36 ft. Number of heads of water in use, 25.

Robertson and Party's Hydraulic Sluicing and Elevating Claim.—This privately owned claim adjoins Our Mutual Friend Claim, and is conducted on similar lines with good results.

Dredging.—There are five dredges in this district, all privately owned. Although able to work only about eight months in the year, operations are fairly successful. Employment is afforded to about thirty-five men.

Upper Nevis.

Joe Park's Hydraulic Sluicing Claim, Upper Nevis.—Sluicing operations are carried on as usual, with fair results.

Edward McMillan's Sluicing Claim, Cameron's Gully, Upper Nevis.—At the end of the year a large and up-to-date plant was being erected on the flat portion of the claim. In the meantime sluicing is being continued on the terrace portion of the claim with good results. Four men employed.

Ellis Bros.' Hydraulic Sluicing and Elevating Claim, Upper Nevis (R. McDonald, manager).—The water-rights have been improved, and a race cut in at a higher elevation than the one formerly in use. At the time of my visit the line of pressure-pipes was being extended to the new race. This claim has been in operation on the Upper Nevis Flat for several years, and the improvements referred to indicate the payable nature of the undertaking.

O'Connell and Graham's Hydraulic Sluicing Claim, Upper Nevis.—After several years' highly successful work at the head of the Upper Nevis Gorge, subsequent operations were not attended with success. Several attempts were made to locate the extension of the gold-bearing wash, but apparently without success, and the plant and claim were offered for sale. It is understood that the property was purchased on behalf of one of the partners, who intends to resume operations in the locality of Whitton's Creek.

O'Connell Bros.' Sluicing Claim, Upper Nevis.—Four heads of water are to be brought in to command a deposit similar in nature to that worked successfully at McMillan's claim. The plant formerly in operation on the Undaunted property will be transferred to the new claim.

Undaunted Sluicing Claim, Upper Nevis.—The attempt to work the bed of the Upper Nevis Gorge by hydraulic sluicing and elevating was a failure. It is understood that the plant has been purchased by O'Connell Bros. for their claim in the same locality.

Dredging.—So far, dredging in this district is in its infancy, and its rapid progress is hindered by the inefficiency of the machine now in operation there and to the want of a suitable cheap coal-supply.

Athol.

George Holloway and Party's Claim, Paddy's Alley (A. Vey, manager).—Very rich finds have been made in this locality, but the great drawback is the want of a suitable water-supply. This party are sluicing with a poor supply drawn from Fiery Creek, Mid-dome, and conveyed in a siphon across the Mataura River Valley. Three men employed.

Nokomai.

Nokomai Hydraulic Sluicing Company (Kum Poy, secretary, Dunedin).—This company practically commands the whole of the Nokomai Valley. Two claims are held at present, the combined area of which amounts to 211 acres. Shortage of water has hitherto affected continuous working of this property during the summer season, and to remedy this defect the Lion Water-race was purchased. A large

number of men have been engaged during the year in repairing and improving this race, which is over twenty miles in length. No. 1 claim (J. Robertson, manager): Eighteen heads of water under a vertical pressure of 650 ft. are used; the material is elevated 75 ft. No. 2 claim (Charles Atkinson, manager): Twenty-five heads of water are used under a vertical pressure of 250 ft.; the material is elevated 50 ft.

Victoria Gully Sluicing Claim, Nokomai (Selwood and Burke, owners).—The present owners purchased this property from John France. The claim is worked by hydraulic sluicing and elevating, with a poor water-supply. The ground is about 20 ft. deep and very rough. Two men employed.

Waikaia.

Argyle Hydraulic Sluicing Company, Winding Creek (J. Stewart, manager).—This company carries on both hydraulic sluicing and dredging at Winding Creek. The dredge is driven by water-power, the method used being, it is claimed, an improved adaptation of O'Brien's system. Surplus water is used for ground-sluicing. The company's operations are attended with success. Seven men are employed.

Winding Creek Sluicing Claim, Winding Creek (John Ramsay, mine-manager; Alfred Reynolds, secretary, Riverton).—This property is held by the Round Hill Mining Company, and sluicing operations have been carried on during the year. The ground is deep, necessitating the overburden being stripped off before the lower portion of the deposit is elevated. Ten heads of water, under a vertical pressure of 280 ft., are available. Six men are employed.

Muddy Creek Terraces, Waikaia.—Separate water-rights from the Dome Creek and mining areas on the Muddy Creek Terraces were secured by Messrs. P. Gordon and F. Hamer. In order to work to the best advantage the various rights were amalgamated, and a large company formed, with a capital of £13,000, to bring in the water from Dome Creek. The water-race has been surveyed, and tenders are being called for its construction over sixteen miles.

Dredging.—Too much attention cannot be drawn to the rapid advance made by the dredging industry in this district. In 1901 the industry was looked upon as a failure in this locality. In that year the Mystery Flat dredge started to work, and obtained good returns. This was the turning-point, and renewed attention was devoted to the field. Systematic boring on the claims was adopted, with good results. There are now seventeen dredges in the Waikaia Valley, fifteen of which are in active operation. Present indications point to the further flotation of companies and the erection of more dredges.

Gore.

Gore is the centre of an extensive mining district comprising Waikaka Valley, Charlton Valley, and Mataura River Valley. Owing to the absence of suitable water-supplies under pressure as required for hydraulic sluicing and elevating, this is pre-eminently a dredge-mining district.

A sluicing claim was at work at the head of Charlton Valley several years ago, but the water-supply was poor. It is now proposed to cut in a race four miles in length from the Otamita Stream to convey sufficient water to carry on extensive sluicing operations. There is a large area of known auriferous ground available.

An extensive deposit of payably auriferous gravels which occurs in the forks of the Big and Little Waikaia Streams is not being worked on account of the impracticability of bringing an adequate water-supply at suitable working pressure.

Two privately owned dredges are now at work on the Mataura River, one above Gore Township and one several miles below. The total number of dredges in active operation on the Waikaka field is twenty-four. Three were dismantled during the year and not re-erected, while one was transferred to a claim on the Mataura River, near Gore.

Ibbotson's dredges continue to operate successfully in the Charlton Valley.

There are still five dredges operating in the Waimumu Valley, near Mataura; three of these are privately owned.

Round Hill.

Round Hill Gold-mining Company (A. Reynolds, general manager; F. Hart, mine-manager).—The working-paddock has assumed large proportions; operations were commenced in the valley of the Ourawera Stream two and a half years ago. Some fifty acres of sludge overlying virgin ground were sluiced and elevated to a depth of 50 ft. in all. The ancient river-bed is bared to the diorite bottom. Buried timber and stones in considerable quantities have been successfully handled by the Pelton-driven log-hauler; in fact, had it not been for the facilities afforded by this machine, it is questionable if receipts from operations would have covered expenses, as the material treated has been below average value, while large quantities of stones and buried timber were encountered. The paddock has become so extensive that Nos. 1 and 2 elevators are growing beyond the range of efficiency from the working-face. No. 3 elevator is being erected to work that part of the claim down stream in virgin ground, the lead of good wash having been proved to continue in that direction. The new penstock and main pipe-line are acting efficiently, and the new storage-dam site is being enlarged as occasion offers. The main line is some 45 chains in length; pipes reduced from 32 in. to 30 in. to 27 in. and 26 in. diameter. Twenty-two heads of water available at a vertical pressure of 300 ft. to the sludge-level, which is 50 ft. above the floor of the claim. Mr. A. Reynolds, general manager, supplies (5/4/1907) the following figures: The area taken out to half the slope is 31 acres, and the area cleaned down to about 25 acres; the average depth of material worked is 15 yards; about 2,250,000 cubic yards of material have been passed over the gold-saving tables, with a return of 5,541 oz., valued at £22,164, being at the rate of 2·363d. per cubic yard. The cost of mining was 1½d. per cubic yard, including depreciation, &c., leaving a profit of 0·61d. per cubic yard worked.

The platinum won amounted in value to £120. The elevators for two years averaged each 69 cubic yards per hour, working three hundred days each year.

Ourawera Gold-mining Company (Jas. Couling, mine-manager).—The deep paddock was finished about the end of the year, and the plant removed to the adjoining claim, where work is proceeding, stripping ahead some 20 ft. or more in depth, and sluicing on the high "bottom" approaching the terraces in Italian Gully. The surface ground had been previously worked by sluicing, but the rich layers of wash in the inequalities of the bottom had escaped notice, or the methods of working had proved inadequate, consequently this company, with its splendid water-pressure, is enabled to benefit considerably. The company continues on the consistent-dividend-paying list.

Smith Gold-mining Company (D. Smith, mine-manager).—This claim is the furthest up the bed of the Ourawera Stream. Anticipations have not latterly been realised. The worked terraces were rich, and it was believed that, as in the case of the adjoining company, payable ground would be exposed by bringing in water at pressure suitable for elevating the sludge in the bed of the stream, together with virgin ground in the valley and at foot of terraces. Such, however, did not prove to be the case. The "bottom" rose consistently, and the irregular layers of wash present proved less rich than anticipated; nevertheless, the company persevered, and a large amount of dead-work has been overcome.

Jewett's Gully Gold-mining Company, Jewett's Gully (Joseph Thurgood, mine-manager).—Elevating suspended meanwhile; stripping and sluicing proceeding up the gully. Four men employed.

Orepuki.

Unlike many other gold-mining centres in this district, the season has been an open one for water-supply, consequently work was fairly regular.

Claimholders on this field are mainly parties of working shareholders, and the field continues to afford remunerative employment.

Depth of ground usually 30 ft. to 40 ft. to false bottom. It does not appear, however, that any of the claims have been worked below the false bottom, probably owing to want of fall for ground-sluicing and there not being sufficient supply of water under pressure for elevating to depth. There is apparently no reason why payably auriferous wash may not occur in the false bottom, as in other districts.

The claim latterly worked by Evans and party is exhausted, and the water will be diverted.

Wallace and Whelan are driving in the terrace; the seam of wash is above normal thickness (generally 4 ft.), and it is understood that good returns are being obtained.

A. M. Dawson and party are sluicing and stripping on the old Undaunted Company's claim.

Altogether, from forty to fifty European miners and from twenty to twenty-five Chinese are employed on the field, which includes Tuanoa Creek, Falls Creek, and Sandy Creek districts.

M. Mouat and Party.—A sea-beach hydraulic elevating claim for treatment of auriferous beach and black-sand deposits at near the outlet of Tuanoa Creek. The claim is subject to tidal influences. Two heads of water leased from Kingsland and party are brought in a distance of about three miles from Waimeamea Creek. By 250 ft. of 11 in. pipes a fall of 70 ft. vertical is gained over the cliff, elevating 17 ft. Suction-pipes are laid along the beach and buried; the intake-pipe is movable, and kept clear of large stones and timber; the sand is then blown in by means of a small jet of water. A double set of tables is erected, each having a spread of 144 square feet. The gold is very fine, notwithstanding which by far the larger proportion is recovered on the first pluck at head of strakes, cocoanut matting being laid at the lower ends to catch what proportion of fine float gold it may. Platinum occurs, and is being recovered. The heavier sands are saved for further examination, with a view to treatment if found payable.

Several beach claims at near the mouth of Tuanoa Creek are being worked by beachcombers in the usual way—copper-plates quicksilvered on portable tables, water being led in in canvas hose. The material treated comprises auriferous black sands, which is constantly assorted by successive tides and the good layers treated by claimholders.

ACCIDENTS: HYDRAULIC AND ALLUVIAL MINES.

Fatal.

20/7/1906: John Phillips, miner, Upper Waikaia, was accidentally killed by a stone from the face falling on his head.

Non-fatal.

20/4/1906: Arthur Hill, miner, Bluespur and Gabriel's Gully Mine, sustained a fractured leg through being struck by a piece of cement rolling from the face.

GOLD-DREDGING.

At the end of December, 1905, the total number of dredges in Otago and Southland in various stages was 172. At the end of December, 1906, this number had dropped to 159. During the year there was a decrease of thirteen dredges. Of this number six were dismantled and not re-erected in Otago, and three were removed from that district to Victoria and one to Southland.

With regard to Southland, there was no difference in the number of dredges at the end of 1906 from the number at the end of 1905. Four dredges were dismantled during the year, but four were imported into the district and erected there.

A noticeable feature of the evolution of the industry is the acquirement of dredging properties by parties of working shareholders or by small syndicates. There are now thirty-five dredges at work

in Otago and seventeen in Southland, owned by working shareholders or small syndicates. Many of these are highly successful, while others are able to work to advantage claims which yield a small profit over working-expenses.

Owing to the unfavourable state of the Clutha (or Molyneux) River during the past season, the several dredges operating in the gorge portions were unable to work for more than a few weeks.

A few improvements have been made in connection with working dredges. The Rising Sun, Duke of Gordon, and Koputai dredges are now fitted with shaking-boxes of different types, in lieu of the revolving screen. It is claimed for these boxes that with a minimum wear-and-tear the material is better treated and a greater percentage of the gold is saved.

Considerable attention was given during the year to the assay of black and grey sands associated with the gold-bearing gravels. A number of small assays were made, but the results obtained lacked the reliability which would have marked the treatment of bulk samples of these sands, which are recovered in various degrees of concentration.

The application of water-power to dredges, though proved to be advantageous where used, has not made much progress during the year. Eight dredges are now provided with this power, and two more are being equipped with the necessary machinery. The question of the reduction of working-costs with regard to motive power is now entering largely into the question of working many areas of low-grade gravels.

A sufficient number of kerosene lamps are used upon the majority of dredges for working at night-time, while a number are equipped with electric-lighting or acetylene-gas plants.

ACCIDENTS: GOLD-DREDGES.

Fatal.

11/1/1906: David Anderson, winchman, Morning Light dredge, Cromwell, was drowned in the Clutha River by falling from the bow side line, upon which he attempted to go ashore from the dredge.

27/2/1906: Robert A. Williamson, winchman, Lone Star dredge, Cardrona, accidentally killed by a section of the broken crown wheel falling on him from above.

4/4/1906: Joseph Burgeois, winchman, Waikaka dredge, Waikaka, drowned in dredge paddock; jumped from coal-punt into paddock while in a state of excitement.

14/5/1906: Walter P. Stevens, winchman, Alpine No. 2 dredge, Lowburn, accidentally drowned while engaged coaling; a portion of the bank above water-level fell on the coal-boat, and Stevens was taken down with it.

Non-fatal.

5/3/1906: J. B. Morgan, blacksmith's assistant, Earnsclough dredge, Alexandra, received a stroke on eye by a piece of steel, necessitating removal of the eye.

OTHER MINERALS.

AURIFEROUS IRONSANDS.

Although extensive deposits of these sands exist in the south and south-west coasts of New Zealand, operations are principally confined to the Orepuki Beach, where about twelve men find employment when the tides are favourable.

Other localities worked more or less intermittently, are at Fortrose, Waikawa, the beach stretching between Clutha and Tokomairiro Rivers, and Kartigi Beach, North Otago.

The want of a suitable appliance to treat these sands wholesale is severely felt, as only a small percentage of the values is obtained by the present system of plate amalgamation. The hydraulic-elevating plant at Orepuki Beach (an adaptation of the Charleston set of tables) appears to be doing satisfactory work.

Platinum.

The usual percentage has been recovered in conjunction with the gold won from the Round Hill Gold-mining Company's sluicing claim at Round Hill, Southland.

The beachcombers at Orepuki also save a small quantity of this mineral.

Platinum is found associated with gold in the black-sand deposits on the beaches of the south and south-west coasts of Otago.

COPPER.

Owing to the high price ruling for this mineral, considerable attention is being devoted to the known deposits.

Some attention has been given to the Moke Creek lode by a syndicate.

The claim at Reedy Creek has recently been applied for, and four men are employed in reopening the mine.

ANTIMONY.

Quite a revival may be said to have taken place in antimony-mining—a condition induced by the high market prices ruling.

Alexandra Antimony-mine (Alexandra Antimony-mining Company, Limited).—This mine was closed down for five years, but has been reopened by James McQueen and party. This property is now advantageously situated, being within one mile of the Alexandra Railway-station. The absence of cheap communication with the sea-board has hitherto retarded the working of many quartz reefs and mineral lodes in Central Otago. Charles Rillstone has been appointed mine-manager of the Alexandra Mine.

and a start has been made to erect the necessary winding and pumping machinery in order that a steady output may be maintained. Eight men employed.

Carrick Range Antimony-mine.—This mine was worked many years ago, and a smelting plant erected, but the venture was not successful. Robertson and party have been taking out a few tons lately with a view to establishing an export trade. This antimony is of good quality, but the mine is handicapped by its distance from the railway.

Nevis Bluff Antimony Lode.—The existence of antimony has been known in this locality for many years, and a considerable amount of prospecting has been done recently, resulting in a few tons of the mineral being procured during the latter part of the year.

Lammerlaw Range Antimony-mine.—As early as 1875 antimony was taken from this lode, and the mine has been worked off and on ever since. It has again been opened up by Mr. A. Buckland, who is at present developing it. Scheelite of good quality is here associated with the antimony. The want of easy communication with the railway, which is some twelve miles distant by mountainous road, has hitherto retarded the working of the mine during years of low-ruling market rates.

Sunrise Peak, Arrow River, Macetown.—Some prospecting has been done on a lode which exists on this mountain.

SHEELITE.

92 tons are returned as having been produced and exported from the Macrae's district during the year. This makes a grand total of 550 tons exported from this district. The chief producers are Messrs. Donaldson Bros., owners of the Golden Point and Mount Highlay Gold and Scheelite properties, from which 92 tons were produced.

The lode at Mount Judah, Glenorchy, Lake Wakatipu, has been opened up during the year, and a few tons of scheelite produced.

Considerable attention has been devoted to deposits known to exist in various parts of the Macrae's district, on the Lammerlaw Ranges, at Barewood, and Leaning Rock Range, Central Otago.

The total production during 1906 was 94 tons 14 cwt., valued at £5,520.

Glenorchy Scheelite Syndicate, Glenorchy, Lake Wakatipu.—Active work was resumed during the year 1906 by Messrs. Lee and Reed, some 14 tons of concentrated mineral being produced and marketed. The old level has been cleaned out and restored. The low level is driven 100 ft. and the lode risen on to surface, over 100 ft. of backs being in sight. Surface trenching has proved continuance of the lode a considerable distance. A battery of five head of stamps, each 800 lb. in weight, is water-power driven. A No. 5 Wilfley table is in use for concentration of the mineral, which is finally packed in small sacks, each 84 lb. in weight when filled. The slimes are being saved for further treatment. It is known that a percentage of the mineral passes over the table, as proved by assay of the tailings.

Precipice Creek, Glenorchy.—Several Chinese at work in an alluvial claim. The specimens of scheelite are stacked for future treatment.

Bucklerburn.—Valpy Bros. (three men): Ground-sluicing suspended meanwhile, and now engaged driving in the terraces for prospecting purposes. Campbell Bros. (two men): Sluicing and elevating, and turning the bed of Bucklerburn Creek.

Twelve-mile, Lake Wakatipu.—Lee and Reed: Ground-sluicing; eight heads of water are brought in from Few's Creek; 700 ft. of 9 in. piping in use. Reed Bros. and McDonald: Elevating 25 ft. in Few's Creek; two men.

HÆMATITE.

14 tons have been taken out by Messrs. McGilvray, Mataura, for use by the Mataura Paper-mills.

Deposits exist in various localities—viz., Clyde and Table Hill (Milton)—the latter deposit being worked on a small scale. The Clyde deposit is said to contain 68.30 per cent. iron, and an area has been granted to James McQueen on behalf of a syndicate.

PHOSPHATE ROCK.

Mining and burning operations have been carried on during the year by the Ewing Phosphate Company, Clarendon, Otago, and 6,000 tons of phosphate rock have been produced for treatment at the chemical works at Burnside. This company has 4,000 tons of rock at grass, and a like quantity stripped and in sight.

The Millburn Lime and Cement Company have also raised a considerable quantity from their property at Millburn.

A deposit of this mineral is said to have been discovered near the Waiau River, Southland.

LIMESTONE.

14,110 tons for building and agricultural purposes were produced by the Millburn Lime and Cement Company, Millburn, Otago, during the year.

Considerable quantities of lime are produced at Dunback and Oamaru, Otago, and at Forest Hill, near Winton, and at Ringway, Southland.

Limestone in various forms is of frequent occurrence throughout Otago and Southland.

MARL.

This deposit was discovered at Burnside in 1904. From portion of the deposit the Millburn Lime and Cement Company took 2,008 tons during 1906, making a total production of 2,808 tons for two years.

The Burnside Hydraulic Lime and Cement Company has purchased a plant for erection and manufacture of cement from the very extensive deposit of marl on their property at Burnside, near Dunedin.

FIRECLAY.

Used for the manufacture of fireclay goods, brick, and sanitary pipes. The following outputs have been returned: Homebush Colliery, Glentunnel, Canterbury, 184 tons; P. McSkimming, Benhar, South Otago, 2,730 tons: total, 2,914 tons.

BUILDING-SAND.

14,784 tons of building-sand were produced during the year from the coal-measures of the Green Island Coalfields for use in Dunedin and surrounding districts.

GREENSTONE.

A lode formation, discovered many years ago at Anita Bay, Milford Sound, was prospected and developed in 1904. The class of greenstone obtained is known as marmolite or tangiwai, and a quantity of it was brought to Dunedin for cutting and polishing. The finished article was put on the market during 1906, and a display was made in connection with the International Exhibition at Christchurch.

I have, &c.,

E. R. GREEN,

The Under-Secretary, Mines Department, Wellington.

Inspector of Mines.

(b.) REPORTS OF WARDENS.

Mr. Warden BUSH, Thames, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Thames, 17th April, 1907.

I have the honour herewith to forward the usual annual report on mining matters in the district under my control.

It affords me great pleasure to report an increase of bullion for 1906, by £291,539 17s. 11d. from that produced in 1905. The total amount for the year is valued at £1,338,395 13s. 7d. The Ohinemuri portion of the district contributed £1,079,013 of this, the famous Waihi Mine being responsible for eight hundred and twenty-five thousand pounds' worth of bullion. The gold obtained from the Thames portion of the field represents £251,902, the Waiotahi Mine being credited with £223,678 of this. The Coromandel part of the field yielded only £7,479 for the year, being a decrease of £2,276 from the return of the previous year. Large though the increase is, there is every prospect of a further increase during 1907. From present indications, some of the smaller properties may add their share to the current year's return.

At Tararu Creek a license to mine for fuller's earth has been issued, and the operations indicate a good prospect of establishing a new industry, as it is claimed a good marketable article can be produced at a cost which will leave a fair margin for profit.

At Karangahake discoveries of cinnabar have been made, and several mineral leases applied for. It is stated that this mineral is easily procurable there; if this proves to be correct, a new industry will be established in that locality also.

A public battery has been established at Kuaotunu, which has given a fillip to mining in that locality.

COROMANDEL.

The period of depression under which this portion of the field has for the past few years suffered appears to be gradually lifting, and there are signs of somewhat more vitality in mining matters, though only slight. This may be attributed to the discovery of good gold-bearing stone in the old Kapanga Company's abandoned mine, which was in consequence taken up by the discoverers, and has since been floated into a company. This discovery was the cause of a small rush for the adjacent ground, which has been taken up. The Kapanga owners lost no time in procuring machinery and erecting a pumping plant, which is nearly completed. The drainage dispute between some of the companies is still unsettled. The claims on the Kauri Block are practically idle, being worked by tributers. Just before the close of the year a promising reef was located at the Tiki, which led to claims being applied for there. At Cadman's Creek an ore-body has been discovered, which, it is stated, will prove an admirable flux for other ores in the district. Should this prove to be correct, a new industry of some consequence will be developed in the future.

THE KAURI BLOCK.

The work on the claims here has been confined to surface tributing. Nothing can be done here without pumping machinery, which the holders of the ground do not appear to be in a position to provide.

WAIHI.

The Waihi Company's mine, consisting of 874 acres, still continues to be one of the most productive in the world. In its various mining operations it finds employment for 1,465 men, besides those engaged in bushwork on contract supplying timber for all the requirements of this great mine. A great amount of mining-work of all kinds has been done upon this property during the past year. One only requires to see the works at Waikino to realise the immense amount of labour necessary to keep that

plant alone working full time, to say nothing of the two batteries at Waihi. The works at Waikino now cover several acres, and appear to be added to daily. The amount of coal conveyed to this mine is very considerable, several trucks arriving by each train.

The Grand Junction Company, which has spent upwards of £200,000 in its mining operations, is only now in a position to secure some of its precious metal to assist it in carrying on its future operations. About the 20th of last August its forty-stampor battery was completed, and crushing was commenced at once, and carried on with twenty-three head of stamps to the end of the year.

KARANGAHAKE.

The New Zealand Crown Mines Company, as usual, has been actively engaged in working its property, which consists of about 400 acres.

The Talisman Consolidated.—The property owned by this company consists of 507 acres, upon which 275 men have been employed during the past year, whose labours have resulted in the output of 49,573 tons of quartz, which yielded 292,419 oz. of bullion, valued at £152,011. The total value of the bullion produced by this mine to date is £598,886, out of which £90,000 has been returned to the shareholders in dividends.

Several applications are pending in the Warden's Court at Paeroa for prospecting licenses for cinnabar, a commodity which it is alleged exists in fair quantities about Karangahake, not far distant from the railway-tunnel there. It is proposed to grant these, having in view the juxtaposition of the ground to the Crown and Talisman Mines and other auriferous lands, for so long only as the applicants shall also be holders of the areas as special quartz claims, thus obviating the clashing of gold-mining with that for any other mineral or metal, and giving gold-mining the first position. I do not know how many of these applications will be continued for granting, but according to report cinnabar is plentiful in the locality pegged out; that being so, it is only natural to anticipate that some of the applications will reach the license stage.

KOMATA.

The Komata Reefs Company has employed 160 men upon its works during the past year, who have sent out of the mine and crushed 20,490 tons of quartz, which yielded bullion of the value of £42,785. This makes the total amount of bullion won since the commencement of operations worth £226,048, out of which £26,664 has been paid in dividends.

TE AROHA.

Hardy's Mines (Limited), which consists of the Premier, the Premier Surplus, the Teredo, the Sceptre Extended, the Day Dawn, Hardy's Reefs West, Hardy's Reef East, and the Gold King Special Quartz Claims, which contain an area of nearly 500 acres in extent, are at present under protection. Since the present company came into possession of these properties it has expended £18,440 in acquiring and developing these claims. Until the protection was granted the full number of men had been employed on this property. The want of further capital was the main reason for the protection. This company has constructed water-races, battery, and aerial tramway; it also uses the ground-tram belonging to the Piako County Council, paying for the use of the same. A considerable quantity of gold was got from some of these claims by Mr. Hardy before the company was floated, but the company have not so far been able to secure enough of the precious metal to carry on the works their scheme proposes without getting into debt, hence the desire to obtain time to find further means to extend their mining operations. This is the only property which has for some time past been energetically worked, and I have no doubt if the company are fortunate enough to procure the means that it will again be in full work. In the meantime no one is being injured by the area being locked up, as the bulk of it has been lying idle for two or three years at least.

There are a few other claims on the register, but these are under protection at the present time. Mr. Allan holds the Golden Gully, about 29 acres; Mr. Hardy holds the Bonanza and Majestic, about 106 acres; and Mr. Gavin the Sceptre and Cadman, about 90 acres. Mr. Edwards holds about 130 acres in three special claims. Although he has endeavoured both far and near to find a process which will treat the refractory ores from these claims, he has so far met with no success. There are said to be large deposits of ore on these claims, but at present there appears to be no process available for treating it.

Mr. McCullough is licensee of the Success Extended, area 10 acres, under protection, although the Success Claim, held by Messrs. Jansen and McCullough, area 10 acres, is being worked, and small parcels of ore taken from this ground have from time to time been treated at the Thames School of Mines and found to be payable. A plant has recently been erected on this ground and has commenced working, but no returns are yet to hand.

This portion of the field, though at present very quiet, will, I feel confident, with its vast quantity of ore, and with the discovery of suitable and cheaper methods of treatment, prove at a future period a very important mining centre.

I have, &c.,

R. S. BUSH, Warden.

Mr. Warden ROBERTS, Tauranga, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

The Warden's Office, Tauranga, 4th February, 1907

I have the honour to report that nothing whatever has been done to develop the mining industry in my subdistrict during the year ended 31st December, 1906.

I have, &c.,

J. M. ROBERTS, Warden

Mr. Warden DYER, Auckland, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

The Magistrate's Office, Auckland, 30th January, 1907.

There has been a little more activity in the Puhipuhi Mining District during 1906 than in previous years. The work, however, has been almost entirely of a prospecting character.

There were twenty-five miners' rights, three prospecting licenses, and two prospecting warrants issued during the year. The two latter were for antimony and cinnabar respectively.

A company has been formed to mine for copper at Kaeo, north of the Puhipuhi Mining District.

There seems a disposition to prospect for minerals generally throughout the district, and a greater interest in mining matters than formerly. Apart from this there is really nothing of interest to report.

I have, &c.,

J. W. DYER, Warden.

Mr. Warden T. SCOTT SMITH, Blenheim, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Blenheim, 19th April, 1907.

I have the honour to forward herewith the usual statistical returns relative to the mining industry in the Marlborough Mining District, and to submit the following report for the year ending the 31st December, 1906:—

Quartz-mining operations have been practically confined to the work done in the Jubilee Claim, where the low-level tunnel has been extended 300 ft. during the year. It is estimated that a further distance of 600 ft. will have to be driven before the reef is reached. Portion of the claim has been worked under a tribute agreement with very satisfactory results, several crushings of a very payable nature having been obtained by the tributer.

A little prospecting has been done in a couple of other properties.

So far as dredging claims are concerned, it may be said that the Alpine Company's operations at Top Valley have resulted unprofitably, and work has been suspended; but the Golden Point dredge at Wakamarina (now owned by a private company) is understood to be giving fairly good returns.

Alluvial mining calls for no special comment, there having been little alteration in its conditions during the past year.

The high price now obtainable for antimony has attracted attention to the deposits at Endeavour Inlet. It will be remembered that these were worked some years ago, when an extensive plant was erected. Operations at that time did not result profitably, and the claims were abandoned and the plant removed. Fresh titles have been applied for and granted, with a view to re-establishing the industry.

I have, &c.,

T. SCOTT SMITH, Warden.

Mr. Warden H. EYRE KENNY, Nelson, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Nelson, 11th March, 1907.

I have the honour to forward herewith statistical returns for the year ending 31st December, 1906, together with a general report upon the mining districts under my administration.

SUBDISTRICT OF COLLINGWOOD.

Parapara Hydraulic Sluicing and Mining Company (Limited).—This company is the holder of three special alluvial claims, but during the period to which this report relates operations have been mainly directed to the development of Appo's Flat, ground hitherto unworked by the company.

During the year the company have kept employed ten men, and have expended in carrying on their operations the sum of £2,951 17s. 1d. The quantity of gold won by the company during the past year was 304 oz., valued at £1,153 4s. 11d. Mr. J. Bassett is the company's manager.

Slate River Sluicing Company (Limited).—The operations of this company have been again considerably hampered during this year by the shortage of water. Owing to the exceedingly dry season the company's water-supply has been much below the average. In addition to the ordinary sluicing the company has expended about £400 on constructive works—viz., cutting in drainage from Bedstead Gully to the company's dam at Toi Toi Flat to increase the water-supply, and driving 150 ft. of rock tunnel to open out new ground in the company's claim. This company has an application lodged in the Warden's Court for an extended claim of 5 acres, between the Slate River and Doctor's Creek, adjoining the company's claim (section 21) and the old claim locally known as Nicholas's. From this area, if granted, the company have every expectation of obtaining good results.

Quartz Ranges.—This highly payable sluicing claim at the Quartz Ranges is owned by Mr. Charles Y. Fell, of Nelson (lately the property of the Collingwood Goldfields Company), and now leased by him on tribute to Diamond and party. This party have command of an exceedingly good supply of water taken from the Boulder Lake, which has enabled the party to work the ground continuously during the past year.

Johnston's United, at Bedstead.—This well-known ground, from the result, I am informed, of a considerable amount of prospecting-work done during the year 1905, has been again taken up by a syndicate in the name of Mr. Charles Y. Fell, in two special quartz claims—viz., 100 acres, Cole's Gully; and 10 acres, Decimal Gully.

The Slate River Dredging Company's Claims and Dredge.—This company at the beginning of the year (January, 1906) went into liquidation, and Mr. West, of Collingwood, was appointed liquidator. The dredge and one of the special claims of the company was purchased by Mr. William Grant, who is Chairman of the Collingwood County Council. Mr. Grant having secured the services of a first-class dredgemaster (Mr. H. Lloyd), the dredge was put in order, and dredging operations commenced in the month of August last.

Taitapu Gold Estates (Limited).—This freehold property of 80,000 acres is owned by an English company. Mr. J. Carroll is the company's mine-manager, and Mr. N. L. Buchanan is the company's attorney here.

Golden Blocks, Taitapu (Limited).—Mining operations on this property do not maintain their previous standard in value.

Minor Operations and General Remarks.—Individual mining, as it was known a few years ago, has nearly disappeared from this district, this branch of the industry being now only represented by a few miners known as "hatters," in some of the lonely gullies.

Prospecting.—A considerable amount of prospecting has been done during the past year, both in the Collingwood and Takaka Counties. There were at the beginning of the year 1906 no less than six prospecting licenses still in force, covering an area of 500 acres, and there were nine prospecting licenses granted during the year over an area of 600 acres—two in Collingwood County and seven in Takaka County, and there are on the file five applications for prospecting licenses for hearing at the next sitting of the Court over an area of 400 acres. Three are for areas in Collingwood County and two in Takaka County.

TAKAKA SUBDISTRICT.

Nineteen applications for mining privileges were issued during the year; seventeen were granted and two withdrawn.

At Upper Anatoki six prospecting licenses were granted, and two water-race licenses.

Prospecting for quartz reefs is vigorously proceeding, and some nice specimens have been brought to Takaka. At Waingarō several parties were out this summer prospecting for reefs; several were found, but whether payable or not has to be proved. All the gold brought from there is of a nuggety nature, impregnated with quartz. The great difficulty in prospecting there is the rough and hilly nature of the locality and the absence of tracks to get up provisions, which at present have to be carried on men's backs from West Takaka.

The Hidden Treasure Claims are idle since the death of Joseph Jacobsen, and some of the ground has been taken up for iron-deposits by Messrs. Jones and Wayne.

MOTUEKA SUBDISTRICT.

There have been no fresh developments of the gold-mining industry in this part of the district since the date of my last annual report, and only three or four persons have been employed during the year.

A mineral-prospecting warrant over 1,000 acres of ground in the Mount Arthur Survey District was granted to an Auckland syndicate in order to prospect for asbestos, a lead of which has been known to exist for some years past. The syndicate have two men engaged prospecting the lead, but some time must necessarily elapse before the extent and value of the deposit can be determined.

No other mining privileges were applied for during the year.

THE IRON INDUSTRY.

On the 2nd October last year there was granted to Mr. Thomas A. Turnbull a mineral-prospecting warrant for five years over 860 acres of iron-bearing land south of the Onekaka Stream and Cadman's lease. This area is rough and mountainous, rising from 200 ft. above the sea at its northern end to 3,000 ft. at its southern, and it is densely covered by native bush, principally scrub and birch. Here and there along the principal ridge bare knobs of iron-ore are exposed. With Mr. Turnbull are associated Mr. G. Wayne, colliery-owner and engineer, and Mr. J. Beynon Jones, of Dowlars and Swansea, South Wales. I am led to believe that an application for a mineral lease will be made almost at once.

Cadman's Lease.—About £1,200 has been expended by the Public Trustee, who holds the property as executor of the late Sir A. J. Cadman, in preliminary work, and I hear on good authority that the whole

concern will shortly be taken over by a powerful company, who will at once proceed to build a tramway and wharf for landing materials for the erection of furnaces and other works in connection with the treatment of the iron-ore.

I have, &c.,

H. EYRE KENNY, Warden.

Mr. Warden KENRICK, Greymouth, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR.—

Warden's Office, Greymouth, 15th April, 1907.

Herewith I have the honour to forward you the reports on the several subdivisions of the mining district under my charge for the year ending the 31st December, 1906.

REEFTON.

The Progress Mines of New Zealand (Limited).—Development-work has been steadily pushed ahead throughout the year, but failed to open up any ore except on No. 11 level, where after driving 1,100 ft. from the shaft an ore-body of value was ultimately encountered. In all 3,715 ft. of driving and cross-cutting and 785½ ft. of raising and sinking was carried out at a cost of £6,764 14s. 8d.; besides which 4,499 ft. of diamond drilling was undertaken, at a cost of £2,237 11s.

Blackwater Property.—Early in the year 1906 Mr. Kingswell obtained an option over a recently discovered property in the Blackwater district, and proceeded to prospect it. By the 9th May his prospecting had so far been successful as to warrant inspecting the property. This was done, and by the end of May the Consolidated Goldfields of New Zealand (Limited) had secured an option over the property for six months, in which to carry out further prospecting-work. Early in October it became apparent that the property was of sufficient value to warrant exercising the option, and further surface-prospecting was unnecessary, so arrangements were made for sinking a main shaft.

Keep-it-Dark Quartz-mining Company (Limited).—Stoping the quartz from Nos. 4, 5, and 6 levels has been carried on during the year. The block of quartz which was being operated on in Nos. 4 and 5 levels is stoped up to the levels above.

Caledonian United Gold-mining Company (Limited).—This company commenced operations about the end of September last on its mining property in Larry's Creek.

Other Quartz-mining.

In addition to the registered mining companies, there are a number of private parties working quartz-mines in this district.

The Inglewood-Victoria Mines, owned by Mr. P. N. Kingswell, have been working constantly for some years, and have given employment to about thirty men.

Knight and party have a 20-acre claim at Italian's Gully, in the Caplestone district, which is worked with a five-stamp battery.

Paine and party, who took up the old Golden Lead ground at Merrijigs, have had a party of tributers at work on a small leader for some time.

Mr. Perotti has a couple of men employed on his claim at Golden Point.

Dredging.

Slab Hut Creek Gold-dredging Company (Limited).—The dredge has turned over about 9 acres during the year for an average weekly result of 23 oz. working-time. The average weekly expenditure throughout the year amounted to £47 10s., which included office and management expenses, as well as bush-clearing ahead of dredge. The company paid 6s. per share in dividends during the year. The company owns about 20 acres of virgin freehold ground, and a special claim of about 100 acres.

Antonio's Flat Gold-dredging Company (Limited).—This company has a claim of 100 acres. The dredge is just about finished, and expected to start working on 24th January, 1907.

Messrs. Hessey, Cameron, and Tacon (Limited).—The property and dredges of the Reeves Proprietary Company were purchased by Messrs. Hessey, Cameron, and Tacon during the year, and they are now working the dredges in partnership as a private company.

Al Gold-dredging Company (Limited) (in liquidation).—Returns from this dredge were considerably below working-expenses for several months of the year, and about the month of September the company went into liquidation. The claims and dredge have been acquired by a private syndicate composed of working-men.

The Boatman's Creek dredge, also owned by a private syndicate of working-men, has been constantly at work during the past year, and has given fair returns.

Alluvial Mining.

There are still a number of alluvial miners in the Blackwater and Boatman's Creek districts, both Europeans and Chinese, but the area of alluvial ground is limited, and the returns, on the whole, not very remunerative. The new discoveries of quartz in the Blackwater district have led to a small area of alluvial deposit being found, but the scarcity of water in the locality is a great drawback.

Statement showing the Comparative Returns from the Quartz-mines in the Reef-ton District from the 1st April, 1880, to the 31st March, 1901, and a Similar Return for the Years ending the 31st December, 1901 to 1906.

Years ending		Calls made.			Dividends declared.	Quartz crushed.	Yield of Gold.			Value of Gold.		
		£	s.	d.	£	Tons.	Oz.	dwt.	gr.	£	s.	d.
31st March,	1881	10,218	17	6	19,650	29,926	17,597	14	10	68,630	13	10
"	1882	25,504	3	4	37,643	14,894	20,154	0	0	78,600	12	0
"	1883	64,345	0	0	32,600	18,928	19,194	0	0	74,856	12	0
"	1884	49,456	0	0	16,500	23,433	16,547	0	0	64,533	6	0
"	1885	29,333	0	0	34,100	34,349	23,997	0	0	93,588	6	0
"	1886	24,565	0	0	14,500	27,198	14,591	0	0	56,904	18	0
"	1887	21,596	0	0	33,450	23,930	21,143	0	0	83,171	15	5
"	1888	30,432	0	0	17,550	24,403	16,775	0	0	66,030	11	5
"	1889	38,919	0	0	16,688	28,564	18,663	0	0	72,720	18	0
"	1890	27,531	0	0	18,250	32,394	17,780	0	0	69,676	12	1
"	1891	20,404	0	0	27,325	39,643	23,347	0	0	91,998	8	10
"	1892	25,956	0	0	30,743	35,562	23,390	0	0	95,885	5	1
"	1893	18,800	0	0	16,900	37,693	20,171	0	0	80,894	5	1
"	1894	14,350	0	0	18,832	34,518	18,413	0	0	73,752	14	11
"	1895	10,153	0	0	11,012	26,602	13,426	10	0	53,509	5	1
"	1896	8,418	0	0	25,925	29,816	22,025	0	0	87,935	18	4
"	1897	9,033	6	8	4,900	13,270	8,365	4	20	33,824	7	1
"	1898	7,859	3	4	50	9,751	4,266	7	1	18,253	7	3
"	1899	5,920	6	8	900	42,305	21,487	18	15	87,587	1	0
"	1900	10,747	8	9	47,050	58,277	26,693	3	18	108,455	17	8
"	1901	5,826	9	7	35,300	82,618	33,979	5	5	134,557	7	11
31st December,	1901	6,233	6	8	58,199	97,870	46,066	16	13	186,719	6	7
"	1902	6,900	0	0	48,475	98,485	46,561	9	9	188,655	2	5
"	1903	4,587	0	0	57,641	109,571	58,840	6	15	195,468	16	10
"	1904	5,262	0	0	54,674	113,375	49,693	16	7	215,996	3	6
"	1905	3,870	0	0	55,343	106,150	44,091	6	11	177,462	19	9
"	1906	1,995	16	8	57,826	96,246	40,295	3	16	156,167	18	2
Totals	...	488,215	19	2	792,026	1,285,771	687,555	2	19	2,715,838	10	3

WESTPORT-CHARLESTON SUBDISTRICT.

In last year's report I dealt very fully with Westport and Charleston, and since that date there is nothing of importance in any of the claims being worked to require special mention.

A considerable number of small alluvial claims continue to be worked, and in many instances are paying more than wages.

A very large area has been taken up in hundred-acre prospecting licenses in Karamea District, which licenses are granted for twelve months, when, if lodes are found, they should be taken up as claims.

The only direct communication is by small steamer from Westport to Karamea.

From information supplied, Mount Radiant is a most promising district for the genuine prospector. It has been proved that copper exists in considerable quantities in the lodes, besides gold, silver, and other minerals.

Up to the present time there has not been that amount of prospecting which the number of prospecting areas taken up warrants; but I feel satisfied when more prospecting has been done some important finds will be made, for there is a very large area of auriferous country open for prospecting.

AHAURA SUBDISTRICT.

Blackball and Healey's Gully.—The number of miners in this district has increased during the year. The Montgomery Terrace Sluicing Company, having resumed operations, have constructed a large dam, and, with a fairly constant supply of water, it is to be hoped that it will meet with a fair share of prosperity. The Republic Sluicing Company's claim is being worked on tribute, and, it is said, with success. The Garden Gully Quartz-mining Company, having met with disappointment in the past, is now sanguine of striking a payable reef. The Paparoa Coal-mining Company, employing about two hundred men, is energetically prosecuting the work of opening up its coal-mine on the Paparoa Ranges. Hillier and party, Hyndman Bros., G. Perotti, and Henry Wessels are all working sluicing claims in this locality, with fair results.

Moonlight.—Very little new ground has been worked in this locality. The Shetland Terrace Sluicing Company, which suspended operations some time ago through shortness of water, having now obtained additional capital, have resumed the completion of their water-race. Mitchell and party are engaged at Upper Moonlight in the driving of a tunnel 450 ft. in length.

Nelson Creek.—During the year five dredges have been at work winning gold to the value of £32,936, out of which the Pactolus Company has returned £16,875 to its shareholders. On the 14th December,

1906, the Jamieson's Reward Company suspended operations. The New Trafalgar paid £650 in dividends, and that former large dividend-payer—the Nelson Creek Company—having completed the construction of a new dredge, has again got into fair working-order. A considerable number of sluicing claims are at work in this locality, and, with few exceptions, are doing well.

No Town Creek.—Three dredges are at work here, owned by two companies, both of which have returned dividends, and have a number of years' work ahead of them. Alluvial mining has been very quiet, but one or two parties are about to start work on a large scale.

Waipuna and Mosquito Creeks.—Alluvial mining is at a low ebb. Two privately owned dredges have been at work during the year, but it is understood without much success.

Duffers' and Half-ounce Creeks.—About the same number of miners have been at work during the year. Baybutt and party are working their claim with good results.

Ahaura River.—A number of miners are working along the banks of the Ahaura River, but the want of a constant supply of water hampers and restricts the development of the industry.

Callaghan's Creek.—One dredge has been working with fair results. Alluvial mining remains in about the same condition as in former years.

Shellback Creek.—A privately owned dredge has worked throughout the year with, it is said, payable results. Some prospecting has been carried on at the head of this creek for quartz reefs, but so far without success.

Snowy River.—This district adjoining the Blackwater reefs has received considerable attention, and during the year prospecting has been carried on through to the Grey River.

General.

The prospects of the Ahaura district are bright. Work is plentiful and wages good. Sawmilling employs several hundred men, and the dredges, on the whole, are getting fair returns.

LYELL AND MURCHISON SUBDISTRICT.

The Alpine Extended Company went into liquidation early in the year. The property was put up to auction and bought by a Reefton syndicate. The purchasing syndicate immediately set about prospecting in the northern part of the mine, where the country is virgin. Very promising stone was struck after about six months' work. Early in December the syndicate offered the property to Mr. G. L. Tacon, of Greymouth, who succeeded in forming a new company to work the mine. The new company is known as "The New Alpine Gold-mining Company (Limited)"; capital is £25,000, in 50,000 shares of 10s. each. The secretary of the new company is Mr. P. Tansey, whose office is at Greymouth; and the directors are Dr. McBrearty, Messrs. J. Taylor, W. J. McIlroy, Robert Craig, and G. L. Tacon.

GREYMOUTH SUBDISTRICT.

The condition of the mining industry in the Greymouth district may, with one or two individual exceptions, be summarised in a few words. Alluvial mining is being prosecuted with steadily decreasing energy, with the exception of sluicing at Barrytown and a few private parties in other parts of the district. At Barrytown, however, a private company still continue with reputed success to win gold from the black-sand deposits in the terraces along the beach, although information as to the returns cannot be obtained from authoritative sources.

Boring for petroleum oil at Kotuku still continues, two companies with adjoining areas carrying on prospecting with what may fairly be described as promising results. It is expected, not without reason, that a foreign company with a large capital contemplate the exploitation of the field.

To go over the ground treated in my former reports, particularly the last, to detail the work already done and the prospects of mining that may in future be done would, I feel, be but unavailing reiteration. I have deemed it best to present, in regard to the dredging industry, comprehensive tables showing its progress and results from its inception down to the end of 1906.

Dredges working during the Year under Private Ownership.

Owners.	Location of Dredge.	Remarks.
Hansen and Kaye ...	Three-channel Flat ...	Late Premier Dredge.
Hansen and Gillstrom ...	Berlin's, Buller ...	Late Rocklands Dredge.
Smeaton and party ...	Inangahua Junction ...	Late Buller Junction Dredge.
Allison and others ...	Shellback Creek ...	Late Shellback Dredge.
De Filippi and others ...	Three-channel Flat ...	Late Mokoia Dredge.
Coghlan and others ...	Boatman's Creek ...	Late Boatman's Creek Dredge.
Gerald Perotti and others ...	South Beach, Greymouth ...	Late Stoney and Mosquito Leads.
J. McAuley and others ...	Mosquito Creek ...	Late Mosquito No. 2 Dredge.
Cowie and Bice ...	" ...	Late Mosquito Dredge.
O'Flaherty Bros. ...	Moonlight Creek ...	Late Moonlight Dredge.

Of these privately owned dredges very little information of an authoritative nature is obtainable; they are individually dealt with in the general report on each district.

During the year the following business was transacted in the Warden's Office and the Warden's Court at Greymouth: Applications pending on the 31st December, 1905, 11; applications received

during 1906, 142 : total 153. Applications heard during 1906, 123 ; applications pending on the 31st December, 1905, 30 : total, 153. Of the applications heard, five were objected to, fifteen were withdrawn, eight refused, and one hundred granted. Suits called on during 1906, 15—heard, 10 ; struck out, 2 ; withdrawn, 3 : total, 15. Total revenue received in cash and stamps, £5,021 17s. 8d.

I have, &c.,

W. G. R. KENRICK, Warden.

Mr. Warden ACHESON, Hokitika, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Hokitika, 20th March, 1907.

I have the honour to report as follows concerning gold-mining operations in the Westland Mining District for the year ending 31st December, 1906 :—

KUMARA DISTRICT.

Alluvial Mining.—Thirty-four companies and parties have been engaged mining for gold, and the aggregate area of land held by them amounted to 684 acres 1 rood 11 perches. The returns from many of the claims have been highly payable. The Kumara Long Tunnel Company (Limited), which has carried on sluicing operations since its formation in 1882 at Shamrock Lead, was once again enabled to pay a dividend to its shareholders. Prospecting of the unworked portion of the claim has disclosed that the company may look for many years' profitable work ahead. In the same locality payable returns have been obtained by McGrath and Company and Cullen and party. Operations have proceeded steadily at Cape Terrace, and, although the claims in this locality are few in number owing to the very limited supply of water available, the returns have been good.

Dredging.—The returns obtained from dredging operations in the Greenstone Creek, where four dredges have been working during the year, were not very satisfactory. The expense of working these dredges was greatly increased by the closing of the bridge over the Teremakau River to vehicular traffic about four years ago. A new bridge will shortly be opened, and in consequence dividends may reasonably be looked for next year by those interested in the claims. The Bun Tuck dredge, a previously paying concern, has been laid up owing to the rotten condition of the pontoons. The Three-mile Gold-dredging Company (Limited) went into liquidation, and the dredging plant is now owned by a local syndicate, which has recommenced operations.

Miscellaneous.—The need of systematic prospecting of several large areas in the vicinity of Kumara is keenly felt, and should gold be found to exist in payable quantities, as may be reasonably expected on the north side of the Teremakau River, in the vicinity of Payne's Gully and in the valley of the Kapitea, prosperity would be undoubtedly restored to this one-time flourishing goldfield.

STAFFORD AND GOLDSBOROUGH DISTRICTS.

Alluvial.—On the 31st December, 1906, 444 acres were held under special and extended claim, and 3,250 acres under various licenses, including sawmill and reservation. The returns from the claims have been quite equal to those of previous years. A local gold-buyer informs me that he purchased more gold during last year than for some time past. The claims at Middle Branch Flat and Tunnel Terrace have been working steadily and gave good returns. At Callaghan's several new holdings have been taken up lately, and from this it would appear that those interested are satisfied with the year's results, and look upon the locality as likely to provide profitable mining for some time to come. The Waimea Hydraulic Company's claim at Goldsborough was surrendered, and the company took up a new one at Chapel Terrace. An extensive flume from the Government water-race on Tunnel Terrace to the opposite side of the Waimea Creek is now about constructed, and the manager is sanguine that with a regular supply of water, which is assured, and the quantity of wash available, handsome returns may be looked for in the future. The Wheel of Fortune has been yielding satisfactorily. The owners put in a large drainage-tunnel during the early part of the year, and are now building a new elevator. When the latter is completed the ground will be worked at a lower level than formerly, and more room for tailings will be available. This claim gives employment to a large number of miners. At German Gully and Fourth and Fifth Terraces all the claims were steadily worked when water was available, but the supply was very limited, and the dry summer caused many to be idle for months. Early in the year Pimpernell and party applied to the Department for a subsidy to connect with the Government water-race at Tunnel Terrace, but their application was refused. Sixty-nine mining applications were received, being a decrease of seven on the previous year.

Dredging.—Only one dredge was working in this district—viz., that owned by the Stafford Gold-dredging Company. The company took up a special claim of 16 acres adjoining their present area, and intends shortly to amalgamate it with its present holding.

HOKITIKA.

Alluvial.—The returns were up to the average of recent years. At Rimu, a few weeks before Christmas, some excitement was caused by a report that Fisher and party, sinking behind the township at what was then known as Chow's, but is now called Governor's Terrace, had bottomed on wash at a depth of 130 ft. The wash proved to be 3 ft. in thickness, and was generally considered payable. Water prevented deeper sinking, until the Rimu Miners' Association came to the assistance of the party with a pumping plant, which enabled a sandstone bottom to be reached at a further depth of 10 ft.

The prospect for that distance only panned a few colours to the dish, but the field is so favourably thought of that arrangements are being made, with the aid of a Government subsidy, to put in a drainage-tunnel, and this, when completed, will make a considerable area available for mining. There have been upwards of seventy men engaged during the year at Seddon's and Back Creek Terraces, and the results averaged from fair to good. The Minerals (Limited) at Blue Spur still continues to give good returns, and a number of miners in that locality make decent livings, but the field is very much hampered by insufficiency of water. At Humphrey's Gully the Consolidated Claim was worked by tributers, but the returns did not improve much, and the prospects for the future do not seem to be very bright.

Dredging.—Only two dredges were working. The one at Woodstock appears to have paid wages, but the other at Blue Spur would seem to have done little more than return expenses.

Quartz-reefing.—Further prospecting took place at the Wilberforce, and in consequence Pfahler and party are now negotiating for a battery in order to commence operations in earnest. The failure to float a company to work the Wilson's Reward Mine seems to have acted as a damper generally upon claimholders.

ROSS.

Alluvial.—The Mont d'Or Sluicing Company paid dividends to the amount of £18,000. A determined effort is being made to form a company to work the deep levels of the Ross Flat, and in my next I hope to be able to report that work is proceeding vigorously.

Dredging.—The Prince of Wales dredge, now owned and worked by six men, returned handsome wages to those interested in it.

OKARITO.

Alluvial.—Mining is practically at a standstill in this district. Only twenty-eight applications were dealt with during the year by the Warden. The Westland Mining and Sluicing Company employed an average of four men on tribute, and with the exception of beachcombing this was the only mining which took place. About four hundred and fifty pounds' worth of gold was bought, and the whole of this was produced by the beach claims. Most of it came from a small patch at the Five-mile early in the year. Grazing, sawmilling, and flax-milling are gradually superseding the search for gold.

I have, &c.,

R. ACHESON, Warden.

Mr. Warden CRUICKSHANK, Dunedin, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Dunedin, 13th February, 1907.

I have the honour herewith to enclose my annual statement for the Hindon portion of the Otago Mining District. There is little to report, affairs remaining much the same as at the close of the year 1905.

During the year the Deep Stream Amalgamated Hydraulic Sluicing Company (Limited) went into liquidation, and its ground has been purchased by parties at Lawrence, who have formed a company to work it under the name of "The Deep Stream Gold-mining Company (Limited)."

I have, &c.,

G. CRUICKSHANK, Warden.

Mr. Warden CRUICKSHANK, Lawrence, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Lawrence, 17th April, 1907.

I have the honour to submit the following report on the several mining subdistricts under my charge for the year ending 31st December, 1906 :—

WEATHERSTONE'S AND BLUESPUR.

In the Weatherstone's district three claims have been working during the year—viz., the Golden Rise Mining Party, the Golden Crescent Sluicing Company (Limited), and the Happy Valley Sluicing Party; but on account of the exceptionally dry season during the last six months of the year, these claims were unable to work anything like full time.

The manager (Mr. J. Howard Jackson) of the Bluespur and Gabriel's Gully Consolidated Gold Company (Limited) very kindly supplies me with the following details of the year's work at the Consolidated Mine at the Bluespur: Average number of men employed, 28; quantity of cement treated, 208,422 cubic yards; quantity of gold won, 1,425 oz.; cost of winning gold, £3 12s. 9d. per ounce, equal to £5,183 11s. 4d.; amount paid in wages, £3,301 19s. 2d.; amount paid for explosives, £333 11s. 6d.; amount paid for upkeep of water-races, £672 11s. 4d. The extraordinary drought that continued from August to the end of the year greatly interfered with the working of the mine, on account of want of water for sluicing purposes.

In Munro's Gully the special claims held by Messrs. J. Kitto and party, Browne and party, and Thomas and party are still being worked; but during the latter part of the year very little work was done on account of being short of water.

TUAPEKA FLAT.

The special claim held by Messrs. Smith and Wallis has been worked by tributers during the year when water was available.

The Tamaiti Gold-mining Company has adopted a new system: a weir has been constructed, on the crib principle, across the Tuapeka River at a point about nine miles from Lawrence. The whole of the river at its normal flow is conveyed by a flume 8 ft. by 5 ft. on to a horizontal turbine; this develops 200-horse power when using seventy Government heads of water—i.e., 437 gallons per second. The power developed by the turbine is conveyed to a four-stage-high duty pump. When the turbine is developing 180-horse power it throws from 6 to 6½ cubic feet per second against a head of 150 ft. This machinery has been working six months. The claim and power-house are lit by electric light. The dynamo, which is a four-pole Westinghouse one, is driven direct off the turbine. A dividend of 1s. per share was declared within three months of commencing sluicing operations.

An application has been granted to the same company for another dam-site lower down the river, and a special claim has been applied for.

WAITAHUNA.

The number of dredges in this locality is now reduced to two.

BEAUMONT.

On the Clutha River above the Beaumont the Otago No. 2 dredge has been working, yielding very good returns.

The Tallaburn Hydraulic Sluicing Company at Horse-shoe Bend has been working throughout the year with good results to the shareholders.

TAPANUI.

The only mining carried on in this locality consists of one dredge (a private concern) working on the Ardmore Estate, near the Pomahaka River, eight men being employed thereon.

WAIKAIA.

I have much pleasure in reporting that the dredging industry in this locality is in a very healthy condition, the total number of dredges being eighteen, and sixteen of these have been working steadily and obtaining good returns. Five of the number were erected during the year. The gold won has been considerable, and, from inquiries made, it is estimated that the yield was about 18,000 oz., valued at about £70,000.

The working-population of this locality has been increased during the year on account of new dredges starting, and it is estimated that at least 275 Europeans and twenty-five Chinese are employed in the Waikaia and Nokomai districts in dredging, sluicing, and coal-mining.

The revenue collected by the Receiver of Gold Revenue at Waikaia for the year 1906 for rent and royalties amounted to £717.

The principal hydraulic-sluicing claims in this locality are the Round Hill Mining Company at Waikaia and the Nokomai Hydraulic Sluicing Company at the Nokomai. A fresh start has been made at Gow's Creek, the abandoned water-race and a claim having been taken up by Mr. Hugh Nelson, and a new hydraulic-sluicing plant has been erected. Besides the above mentioned, a number of small parties are carrying on mining operations very successfully throughout the district.

WAIPORI.

The number of dredges in this locality is now reduced to five, three being driven by steam and two by water power under O'Brien's patent.

The following sluicing claims have been working during the year when water was available—viz., R. J. Cotton (on tribute from W. J. Farrell), the Lammerlaw Hydraulic Sluicing Company (owned by Messrs. Knight Bros.), the Golden Point (worked by D. O'Brien and party), the Bakery Flat Sluicing Company (Gare and party), Munro and George, and a few other small parties.

The sinking for the Deep Lead by Mr. J. T. Johnson on Waipori Flat by means of hydraulic sluicing has been successful, and has proved that the lead carries good gold.

GORE AND SURROUNDING DISTRICT.

In the several districts round about Gore—viz., Charlton, Waimumu, and Waikaka—there are, in all, thirty-seven dredges. Most of these are payable concerns, and give employment to a large number of men.

With reference to the tree-planting on the dredged areas at Waikaka, referred to in my report of a year ago, I have to report that the trees are doing well, and I certainly think that tree-planting might be undertaken more vigorously, with advantage to the district.

I have, &c.,

G. CRUICKSHANK, Warden.

Mr. Warden McENNIS, Naseby, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Warden's Office, Naseby, 18th April, 1907.

I have the honour to forward herewith the annual mining statistics of my district for the year ended 31st December, 1906. I submit also for your information a few notes on the general position of mining matters for same period.

8—C. 3.

NASEBY.

The position is much the same as at date of last report. There are sixteen claims worked by hydraulic elevating and twelve by ground-sluicing, giving employment to sixty European and twenty Chinese miners.

No new ground has been opened up, and there is little or no prospecting going on.

MIDDLEMARCH.

Mining has been slack during the year; some of the old alluvial claims have been abandoned. A quartz claim has been opened up at Mount Ross.

There are two prospecting parties at present at work at Barewood.

MACRAE'S.

During the year ended mining has remained in much the same position as the previous year, with the exception that two or three small quartz-mining properties have shut down, chiefly on account of the short supply of water during the year.

The Golden Point Mine has had a most successful year, and has produced a large amount of gold and scheelite. The price of the latter has gone steadily up, and at the end of the year it was worth £1 15s. per unit in Hamburg.

The tungsten-mine has been working steadily during the year, and the returns are good. This property suffered very much from scarcity of water during the latter part of the year.

A considerable amount of prospecting was done during the year; but from want of capital, and probably from want of enterprise in some cases, nothing permanent came of the work done.

PATEAROA.

On the Lammerlaws and Upper Taieri, Reid and party have taken up a claim some distance above the Canadian Flat, and are at present constructing a water-race. When this is completed sluicing will be proceeded with. Henderson and party, who recently purchased what is known as "Pettigrew's old claim," are also bringing in a new race of considerable length, and intend erecting a suitable plant.

The Canadian Flat, or Taieri Falls Sluicing Company, who hold one of the best water-rights in New Zealand, are having the works pushed ahead with all speed, and at considerable cost. On a section of the main head-race iron piping is to be put in to convey the water over most of the rough and unsuitable country for an open race. An extensive hydraulic plant is now on the ground, and will be put together.

At the Serpentine, Messrs. Carr and Duncan have met with success in their new venture. They have a nice little hydraulic plant at work, and while the water-supply held out good payable gold was obtained.

The Messrs. Cogan during the year also put in a small hydraulic plant on their property, but the returns so far have been rather poor.

All these claims, being at a high altitude, suffer considerably from want of water and severe frosts. The average working-year is not more than six months.

Coming down to lower country, towards Linburn, we find Messrs. Adam and McDonald, who have been all summer taking up a rock tail-race to get at some deeper ground back in the flat, into which payable gold has already been traced.

Nearer Sowburn, Johnston Bros. continue to do well in their old claim when water is plentiful. More plant is added every year and extra storage for water provided for.

McLean and party, after two years' hard work, got their new race completed at end of December, and when their plant arrives at the claim it will not take long to get things in order and ready for sluicing when water is available.

The Patearoa Hydraulic Sluicing Company continues to secure rich returns; work is kept going night and day. A 2,000-candle power electric light has been installed during the year, and gives great satisfaction.

At Hamilton's very little mining has been done this year, the water-supply falling off early in the spring. It is a great pity this spot, proved so well to hold highly payable gold, has to lie idle for want of water.

MATAKANUI.

The Undaunted Gold-mining Company won during the year gold to the value of £2,679 15s. 5d., and declared dividends to the amount of £750.

The Tinker's Gold-mining Company obtained 700 oz. of gold for the past year, and paid in dividends 2s. 3d. a share. Number of men employed, eight.

The Matakaniui Gold-mining Company obtained a yield of 433 oz. of gold for the year's work, and paid in dividends £524 15s. 6d. Number of men employed, seven.

The Mount Morgan Gold-mining Company obtained, I am informed, satisfactory returns for the year. Number of men employed, four.

The year, on the whole, has been exceptionally dry, which retarded sluicing operations greatly.

ST. BATHAN'S.

Mining has made satisfactory progress in this locality during the past year. There was a good supply of water until the end of June, and the winter was so mild, with so little frost, that many of the claims continued operations right through the season. The spring has been the driest known here since the opening of the goldfields, and the outlook for a supply of water during the summer months

is by no means bright ; in fact, nearly all the claims have been worked with a very small supply of water all the time, and the gold-returns in a large degree have been affected by this shortage of the necessary water-power.

In the St. Bathans basin extensive works have been carried on during the last year by the United M. and E. Company, and since September by the Scandinavian Water-race Company.

Messrs. Eagle and Gray have a claim adjoining the United M. and E. Company's claim, and they are now engaged deepening their tail-race to the level of the St. Bathans channel, so as to take advantage of the extra fall gained by the deepening of the channel. When the work is completed they will be enabled to ground-sluice 30 ft. off their present workings.

The Scandinavian Company, who last August purchased the Kildare Hill Claim and plant from the Bank of New Zealand, immediately commenced operations thereon. This company has an excellent never-failing water-supply from the Manuherikia River at a pressure of 500 ft. The same company, before purchasing the Kildare Hill Claim, did a large amount of work on their claim at Surface Hill.

The St. Bathans channel is gradually deepening, and has already been of much service to the efficient working of the basin. The aid given by the Government towards this important work is much appreciated by the local residents. The said company is now increasing the carrying-capacity of the upper flushing-race, so as to enable fifty heads of water to be taken in at the head of the channel and thus create a scour and assist the deepening operations.

The Vinegar Hill Company have continued their operations, with the usual success. The company have been elevating to a depth of 104 ft.

Messrs. O'Hara and McCarthy have turned over a lot of heavy stony ground, and the results are said to be satisfactory.

Messrs. Gay and Fordham have continued to work their claim between Vinegar Hill and Cambrian.

At Cambrian, work has been carried on by Messrs. Jones, Rutherford, Dungey, Morgan, and McGaskin, and all seem satisfied with their earnings.

I have, &c.,

J. McENNIS, Warden.

Mr. Warden McCARTHY, Invercargill, to the UNDER-SECRETARY, Mines Department, Wellington.
SIR,—

The Warden's Office, Invercargill.

WYNDHAM.

Very little mining has been done in this district for the past twelve months ; only some three or four men can be said to be making their living entirely by it.

Recently a few speculators have been prospecting about Lake Brunton, and are said to have obtained good prospects from the black sand on the beach there, and they are now erecting a plant for the purpose of giving it a good trial ; if they are successful it will give mining a fresh start on the beaches at Otara and Waikawa.

ROUND HILL.

The mining operations on this field are still confined entirely to the four sluicing companies—Round Hill, Ourawera, Smith, and Jewett's Gully Gold-mining Companies—their respective yields for the past year being 2,167 oz., 904 oz., 113 oz., and 143 oz. The first-named company is as yet the only one to return a dividend to its shareholders, the total amount of such to the end of the year being £12,415. The Jewett's Gully Company have now completed the bringing-in of the water on to the claim. As at Orepuki, the irregular supply of water is detrimental to the furtherance of the industry on this field, and with the steady removal of the forest from the Longwood Ranges the deficiency tends to increase every year.

OREPUKI.

The number of miners on this field is much the same as in the previous year. The available profitable ground is pretty well exhausted for the alluvial miner : the auriferous ground as yet unworked lies on freehold property.

The claims taken up on Mary Ann Spur towards the end of the year 1905 have all been thrown up by their holders.

The Chun Wah Tong Company, who hold aress on Tuanoa Flat, have erected elevating plant, but it is too early yet to say whether their venture is successful.

On that well-known auriferous patch, the sea-beach, Mouat and party hold 14 acres. The claim is at present under protection to enable a company to be floated and the water and machinery to work the ground in a systematic manner brought on to the site.

PRESERVATION.

There are three claims now in existence here : Bastings's Alluvial Claim at Welcome Bay, Todd's Crown Quartz Claim at Cuttle Cove, and Kingsland and Holloway's Morning Star Quartz Claim at Te Oneroa. The old Morning Star Claim was surrendered during the year, and the area is now included in the present claim of the same name, held by Messrs. J. Kingsland and J. Holloway.

All the leases are at present under protection to allow of the usual preparations to be completed. This, from the inaccessibility of the locality, is necessarily slow ; but it is to be hoped that at last the efforts to open up this field will be successful.

STEWART ISLAND.

There are no gold-mining licenses on this portion of the district, the mineral claims held at Pegasus being worked for the purpose of raising the tin, which for so many years has been known to exist there.

Increased activity has been shown during the past year, and a northern syndicate is carrying on thorough prospecting operations at present in the Pegasus Survey District.

I have, &c.,

S. E. MCCARTHY, Warden.

(c.) REPORTS OF DIRECTORS OF SCHOOLS OF MINES.

Professor JAMES PARK, M.Inst.M.M., M.A.Inst.M.E., F.G.S., Director of the Otago School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Otago University, Dunedin, 16th April, 1907.

I have the honour to submit my annual report on the Otago University School of Mines for the year ending 31st December, 1906.

The mining school for the year ended showed an attendance of thirty, of whom twenty-seven were matriculated students of the University of New Zealand. Of the thirty registered students, nine attended one subject only—namely, three in assaying and six in geology.

Six students in their final year completed the full course in the division for which they had entered, and three in their final year did not complete their course, each of them having failed in one professional subject.

ANNUAL EXAMINATIONS.

Thirty students presented themselves for examination in twenty-one subjects, and of these one failed in senior surveying, one failed in senior surveying and assaying, and one in senior surveying and metallurgy.

DIPLOMAS AND CERTIFICATES.

Three graduates of the mining school, having presented satisfactory certificates of time spent in practical work as required by the regulations, were awarded the diploma of associate—namely, two in mining and one in metallurgy.

The certificate of mine and land surveyor was granted to five graduate students, and the certificate of metallurgical chemist and assayer to one student.

The names of the students to whom diplomas and certificates were issued are as under :—

A.O.S.M. in Mining.—Edward Iles, A. James Walker.

A.O.S.M. in Metallurgy.—William Gibson.

Certificate of Mine and Land Surveyor.—Ernest Herbert Webb, B.E., George H. Royse, A.O.S.M., Oluf Moen, A.O.S.M., Edward Iles, A.O.S.M., J. F. McPadden.

Certificate of Metallurgical Chemist and Assayer.—Edward Iles.

The diplomas granted in the divisions of mining, metallurgy, and geology since 1887 are as follows :—

Division.	Issued up to End 1905.	Issued in 1906.	Total.
Mining	76	2	78
Metallurgy	37	1	38
Geology	13	..	13
Totals	126	3	129

APPOINTMENTS OBTAINED BY OLD STUDENTS DURING 1906.

The list of old students of the mining school who have secured responsible appointments during the past year is longer than in former years. It is as follows : (1) T. H. B. Wayne, A.O.S.M., mining engineer to Woodbush Mine, Petersburg, South Africa ; (2) Colin Campbell, A.O.S.M., assistant manager, Woodbush Mine, Petersburg, South Africa ; (3) Claude L. Gregg, A.O.S.M., assistant manager, Ashanti Goldfields Auxiliary (Limited), Dunkwa, Gold Coast, West Africa ; (4) George Watt Thomson, A.O.S.M., mining engineer to the Minerals Separation Company (Limited), London ; (5) Arthur Robert Andrew, M.Sc., A.O.S.M., chief surveyor, Mineral Survey, British Central Africa Protectorate ; (6) Norman R. Fisher, B.E., A.O.S.M., assistant engineer, Pennsylvania Railway Company, United States of America ; (7) William Gibson, A.O.S.M., superintendent of battery, Omaha Gold-mining Company, Thames ; (8) George H. Royse, A.O.S.M., assistant surveyor, Jumpers' Deep (Limited), Cleveland, Johannesburg ; (9) James M. MacLaren, D.Sc., consulting engineer, London ; (10) James Baillie Macdonald, A.O.S.M., consulting engineer, Rand, South Africa ; (11) A. E. de Lautour, A.O.S.M., general manager, Tasmania ; (12) Herbert Black, A.O.S.M., metallurgist, Cumberland Mine, South Australia ; (13) O. G. Adams, B.Sc., A.O.S.M., consulting engineer, London ; (14) Ernest H. Webb, B.E., assistant geologist, New Zealand Geological Survey.

The number of appointments obtained by our students in the past six years is as under : 1901, 8 ; 1902, 7 ; 1903, 8 ; 1904, 11 ; 1905, 13 ; 1906, 14 : total, 61.

Altogether sixty-one appointments were secured by fifty-five individuals. The salaries for the most part ranged between £300 and £600 a year. In eight cases, mostly those of lecturers, the emolument was under £300, and in two cases it exceeded £800 a year.

The various occupations represented in the above list of sixty-one are as under: Consulting engineers, 3; mining engineers, 8; assistant mining engineers, 4; general managers, 3; mine-managers, 7; inspectors of mines, 2; geologists, 3; mine-surveyors, 5; metallurgists, 9; dredge-masters, 2; directors, schools of mines, 8; lecturers, schools of mines, 7: total, 61.

In addition to those enumerated above, twenty-two students have obtained places as assayers, cyaniders, metallurgical chemists, mine and battery assistants. These are the positions in which our students gain experience, and from which they graduate into the more responsible appointments.

A noticeable feature in respect to these appointments is that the best places do not necessarily fall to the men of greatest ability, but rather to those who possess average ability combined with initiative and enterprise.

NEW ZEALAND UNIVERSITY EXAMINATIONS.

The results of the November examinations of the New Zealand University, so far as they concern our mining students, are as follow:—

Honours in Science.—A. M. Finlayson, first class in geology, first class in physics.

Master of Science.—Arthur Robert Andrew, C. N. Boulton, and A. M. Finlayson.

Senior Scholarships.—C. A. Cotton in physics.

Final B.Sc.—J. A. Bartrum and C. A. Cotton.

Final B.E. (Mining).—H. R. Macdonald and A. Gordon Macdonald.

First Section B.E. (Met).—Gerhardt C. Ulrich.

The Sir George Grey Scholarship of Otago University was awarded to C. A. Cotton, B.Sc. Thus for five years in succession this scholarship has fallen to a mining student. The Ulrich medal for 1906 was won by I. Douglas Isaacson.

ACADEMIC.

In the past five years our mining students have secured the following academic distinctions: Two Rhodes Scholarships, three 1851 Exhibition Scholarships, four Senior Scholarships, New Zealand University, six First-class Honours in Science, and five Sir George Grey Scholarships.

The cash value of the scholarships won by students of the Otago Mining School in the last five years amounts altogether to £3,100.

The mining graduates who have taken the ordinary B.Sc. and engineering B.Sc. are as follows:—

					1902 to 1905.	In 1906.	Total.
Ordinary B.Sc.	..	..	..	..	9	2	11
Engineering B.Sc.	..	..	..	..	5	2	7
Totals	..	..	..	..	14	4	18

LABORATORY.

During the year 155 samples of ore and mineral were assayed for the public by Mr. Waters at schedule rates, and in the same period sixty-seven samples of rock and minerals were examined and reported on by Dr. Marshall, and thirty-one by the Director, all free of charge.

MINE-SANITATION.

The great development of underground mining in recent years and the increasing depth of mines have added much to the difficulty of providing a ventilating current that shall sweep away all noxious gases and give a constant and sufficient supply of pure air. The maximum effort of a workman is obtained between temperatures ranging from 55° to 75° Fahr., and in presence of a sufficient supply of pure air. Hence, apart from its purely humanitarian aspect, the preservation of the health of the workmen is now recognised as an important branch of mining economics.

Mines vary in extent and depth, in the character of the mineral being mined, in the gases given off, and in the number of men employed. Where the conditions vary so much, no hard-and-fast rule can be laid down as to what shall constitute sufficient pure air for any particular mine or group of mines. Every mine is a law unto itself.

In the coal-mines of Europe and in the deep gold-mines of the Transvaal the constitution of the mine-gases has become the subject of close scientific investigation. It has been found that no rule-of-thumb methods, no amount of practical experience in mining can tell when the mine-air is pure and wholesome, or when it is vitiated to a dangerous extent. Only exact chemical analysis can do so.

The causes and prevention of miners' diseases have also been matters of close investigation, with results that have already done much good by directing attention to improved methods of underground sanitation.

So important is mine-sanitation now considered, that it has been added to the curriculum for mining engineers at the leading schools of mines in Europe; and at Oxford School of Mines a special chair has been created to deal with it.

The Director, following the lead set in Europe, and recognising the benefit to be derived from the existence of the medical school here, obtained the sanction of the Council to add to the advanced mining curriculum a short course of lectures on mine-gases, mine-sanitation, and cognate matters. Accordingly it has been arranged that our senior mining students at the end of their final year should attend five lectures by Professor Malcolm on "The Physiology of Respiration," and three lectures by Dr. Col-

quhoun on "First Aid in Medicine." Although not provided for in the regulations, Professor Malcolm and Dr. Colquhoun in last October gave short courses of lectures to a number of students who were passing out in their last year, a courtesy which was greatly appreciated both by the Director and the students.

EXHIBITION ESSAY.

The Hon. James McGowan, Minister of Mines, early in the year called for competitive essays on the mining industry of New Zealand, to be published in connection with the Christchurch International Exhibition. It is gratifying to state that Mr. Robert McIntosh, A.O.S.M., a graduate of Otago School of Mines, was awarded the first prize of £50 and the gold medal, while Mr. James Williams, an undergraduate, secured the second prize of £25 and the silver medal.

GIFTS OF MINERALS AND MAPS.

During the past year a collection of ores was received from Reefton, and also rock-specimens from the gold-bearing gravels. Professor David presented some typical rocks and fossils from New South Wales, and Dr. Marshall obtained specimens from the Cambrian, of South Australia.

To our New Zealand collections were added specimens of rocks from Ruapehu and the other central volcanoes of the North Island, and an interesting series of rocks from the peninsula north of Auckland, collected and presented by Dr. Marshall.

The geological department has been further enriched by a useful series of geological maps of the Australian States. These have been mounted and placed in position for class demonstration. The school of mines has also been placed on the complimentary list of each of the States of the Commonwealth, and in future will receive all maps and publications free of charge.

The directors of the Broken Hill Proprietary Company have presented the school with a valuable case of cerusite crystals, and the exhibit of the Waihi Company at Christchurch Exhibition has been secured for the use of metallurgical department.

CONCLUSION.

I wish, in concluding my report, to place on record my appreciation of the efficient assistance and co-operation of my colleagues, Dr. Marshall and Mr. Waters, who carried out the work of their respective departments with great zeal and success.

My acknowledgments are also due to Mr. George Armstrong and Mr. E. I. Menzies for their willing and effective help.

I have, &c.,

JAMES PARK, Director.

The Under-Secretary, Mines Department, Wellington.

Mr. D. V. ALLEN, B.Sc., Director of the Coromandel School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

School of Mines, Coromandel, 21st February, 1907.

I beg to submit my annual report on the work and progress of the school for the year 1906.

Work was resumed at the school on the 6th February, 1906, and by the end of the month twenty-three students were enrolled, with an average class attendance of forty-seven. There was a falling-off in the following terms, the numbers being respectively twenty and thirty-nine for the second term, and seventeen and thirty-one for the third.

Instruction was given in the following subjects—viz.: Mathematics, mining, &c., theoretical and practical chemistry, metallurgy, surveying, assaying, and electricity (senior and junior).

The results of the annual examinations, held last December, show that the school obtained three first-, one second-, and six third-class certificates. Students as a rule do not recognise the importance of sitting for these examinations. A certificate from a school of mines is a valuable recommendation in the mining world, apart from the knowledge gained in preparing for the same. Again, every student owes a duty to the institution to which he belongs, and should pride himself in doing his best to maintain it in the front rank of progress.

Practical examinations in certain subjects were instituted for the first time this year, being taken in conjunction with written examinations in the same subjects. Practical bullion-assaying was, however, taken separately, one student being successful in passing therein.

The two prizes donated by Mr. F. C. R. Horne were gained by J. C. Scott (88 per cent. in senior electricity) and W. E. Carlyon (75 per cent. in junior assaying).

Sixty samples of ore were assayed for the public. Through the kindness of the Hon. James McGowan, Minister of Mines, arrangements have been made enabling *bona fide* prospectors to get assays done free of charge. Now that this fact has become more generally known, samples for assay are coming to hand freely.

As in past years, the geological collection has been supplemented by donations of rocks and minerals, while the library has benefited by donations of mining periodicals, &c., from the Mines Department.

Up to the present twenty-one students have been enrolled for the ensuing year.

I have, &c.,

D. V. ALLEN, Director.

The Under-Secretary, Mines Department, Wellington.

Mr. G. S. CLARK, President of the Thames School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Thames, 14th February, 1907.

It is with much pleasure that the Council present you with their twenty-first annual report. The attendance at the school during the year was fairly satisfactory, being as follows :—

	First Term.	Second Term.	Third Term.
Registered students	61	53	40
Saturday science class	43	38	27
	104	91	67

The class attendances were 178, 130, and 88 in the respective terms.

The annual Government examinations were held in December last, but again the Council note with regret that the number of students who sat for examination was out of all proportion to the number attending the school. Judged by the falling-off in the attendance during the third term of each year for the last five years, in comparison with the figures of previous years, added to the small number of candidates for examination, the Council are led to the opinion that there is a lack of effort on the part of students to endeavour by application to reach the goal they no doubt had in view on entering on their studies at the commencement of the first and second terms. Students should, in their own interests, strive their utmost to bring out the best that is in them, and should not be afraid to test their attainments at the examinations; and if the result is not all they would have desired, they will find that the close study they require to bring to bear on a written examination is the best possible practice they can undertake, as it has a tendency to give them more confidence, as well as the opportunity of finding out precisely where they are deficient.

The President's medal this year is awarded to S. G. Baker. Mr. Denby's medals are awarded to James Kernick for mineralogy and geology, and to L. Kitching for chemistry. Mr. E. F. Adams's prizes are awarded to R. W. Adams for assaying and to L. Kitching for surveying. Matthew Grigg receives the Council's prize for being "dux" in the elementary chemistry class, having secured the goodly number of 83 marks out of a possible 100. Prizes for attendance in this class have also been awarded to C. Poulgrain, F. Ellis, R. Mayo, and Olive Wylie.

The Council intend reviewing the conditions under which the President's and other medals and prizes are awarded, the probable outcome of the revision being that in the case of the President's medal a minimum number of subjects will require to be taken and a minimum number of marks obtained either in each subject or collectively. The medal is meant for excellent work, not mediocre. The practice of awarding the medal to a second-class student because he happens to be the best of a second-class group, or that it is awarded because the best student is ineligible on account of his having won the medal on a previous occasion, is wrong in principle, and has nothing to recommend it. This alteration has been contemplated for some time past, and the Council are of opinion the time has fully arrived for giving effect thereto. With respect to other medals and prizes, the rule will be fixed that no award will be made unless first-class certificates have been obtained.

The Council are pleased to announce that after repeated efforts the Hon. Minister of Trade and Customs has sanctioned the examination for certificates of assayer under the Trade and Customs Act to be conducted at the school.

The proposed school of mines in connection with the Auckland University College has now been founded, and the Council wish the undertaking every success. In a practical sense University schools of mines in the colony have not been a success, and the fact that they did not make mine-managers has been pointed out to the Otago University by the Hon. Minister of Mines. The professors in reply state that it is the conditions *re* practical ability that bar the way, and that University students could not put in the necessary time to gain the practical knowledge required. They (the professors) sought to bring pressure to bear on the late Premier to induce him to reduce the time necessary to gain experience underground from five years to one, alleging that it was useless to approach Mr. McGowan, the Minister of Mines, as he was totally opposed to the change. The Council made a strong protest to Government against any alteration in the time necessary to be employed in underground workings to qualify for certificates, pointing out that it would be a serious retrograde movement and against the safety of the public, whose interest it was sought to conserve through the certificate. There is little danger of alteration while Mr. McGowan is Minister of Mines, but there can be no doubt that as time goes on the Otago and Auckland University Councils will join forces and endeavour to have the underground experience reduced: it will therefore be necessary to be always on the alert.

The electricity class was conducted by Mr. J. G. Lancaster, B.Sc., during the first two terms of the year, but he, having to complete his University career, was unable to continue his work at the school, much to the regret of the Council, as he had proved himself an efficient and popular instructor. Applications were invited for the position, and Mr. J. G. Fairfield selected, and his services during a probationary period of three months having been satisfactory, the Hon. Minister of Mines has now confirmed his appointment on the recommendation of the Council. The attendance at the class was fairly good during the first two terms, but in unison with the other classes the attendance was not satisfactory during the last term.

The experimental plant has been used to a limited extent only, but shows an improvement on the previous year. The employment of this plant is indicative of the amount of prospecting being done in the district: when the prospector is abroad in fair numbers the plant is much used, and *vice versa*. The Minister of Mines, as a stimulus to the prospector, has intimated that the cost of treating parcels of ore at the school will be defrayed by Government on the certificate of the Inspector of Mines that the person applying for the privilege is a *bona fide* prospector.

The geological museum has been enriched by the addition of several specimens donated and collected during the year, and the Council again take the opportunity of appealing to every person in the district to place in the museum any unique specimens they may drop across. The museum, although attached to the school, really belongs to the people of the district as a whole, and may be inspected by any individual at any convenient time.

In concluding this report the Council desire to express their sincere thanks to the Hon. Minister of Mines for the warm interest he continues to take in the welfare of the school. The Council also desire to thank the examiners for their valuable services, the Thames County Council for free water for motive power, Mr. J. Wilson for his gratuitous services as auditor, the donors of specimens for enriching the museum, and to all who have in any way contributed to the welfare of the school.

The Under-Secretary, Mines Department, Wellington.

I have, &c.,

G. S. CLARK.

Mr. R. B. MACDUFF, Director of the Karangahake School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Karangahake.

I have the honour to report as follows on the work done at the Karangahake School of Mines for the year 1906 :—

ATTENDANCE.

It gives me great pleasure to report that the attendance has improved considerably during the year, averaging forty-two students, and having fifty-nine students on the roll during the second term. This is the highest average attendance yet reached for this school.

EXAMINATIONS.

At the annual examinations, held in January and December last, students of this school secured one first-class mine-manager's certificate, one battery-superintendent's certificate, and sixteen first-class certificates in the class examinations. Beside the above, four students passed the examination for engine-drivers' certificates for winding, while another student passed the first-class stationary-engine-driver's examination.

LABORATORY.

Owing to the Council's decision to do free assays for prospectors, no less than 196 assays were made during the year, in addition to a number of assays which were paid for. While the free assays are a boon to prospectors, some scheme of restricting the assays to such will have to be evolved, as I have had samples of South Island quartz handed in by prospectors as being obtained in the Ohinemuri County. Again, the prospectors themselves are often very inconsiderate, and send samples in by tans. Under the above conditions the teaching of assaying to the students must be materially affected; one cannot do assays and teach at the same time.

IMPROVEMENTS.

During the year a storeroom 16 ft. by 12 ft. has been erected, a Y level ordered; also a staff, and an experimental dynamo is now about to be installed. These latter items were obtained mainly from a special grant of £2 for £1 from the Hon. the Minister of Mines, to whom the Council extend their best thanks.

WAIKINO SCHOOL OF MINES.

The branch school at Waikino is completed, and is ready to open at the beginning of 1907. In this school it is intended to devote the time chiefly to the study of assaying, chemistry, mathematics, and metallurgy, especially with a view to training students for the battery-superintendents' examination. The school will be kept open full time.

ASSISTANT.

The work of teaching so many different subjects last year became too much for me, and the Council appointed one of my students—Mr. C. Harsant—to act as temporary assistant. In December this appointment was made permanent, and the two schools will be now kept open full time.

CONCLUSION.

In conclusion, I extend my thanks to the Hon. the Minister of Mines, and to the Secretary, Mining Bureau, for numerous periodicals relating to mining and metallurgy, and also to all gentlemen who have given papers and specimens to the institution.

R. B. MACDUFF, Director.

The Under-Secretary, Mines Department, Wellington.

Mr. W. F. WORLEY, Director of the Nelson School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Nelson, 19th March, 1907.

I have the honour to report as follows upon the school of mines work carried on in this district during the year 1906:—

Owing to the disastrous fire at the Nelson Museum in the early part of the year our work has been somewhat curtailed. The typical specimens of ores and rocks belonging to the school were housed in the museum, and were so much damaged by the fire as to render them for the time being unfit for use. Dr. Krantz, from whom these specimens were obtained by the Mines Department, has been communicated with, and says that he will be able to supply duplicates of the specimens irreparably damaged. The Nelson Institute, for lack of funds, has not been able to undertake the restoration of the museum. There are good reasons to expect, however, that during the present year the Institute committee will be able to commence rebuilding, and that by this time next year the specimens will be again suitably arranged and ready for use. In spite of these drawbacks, however, we have been able to carry on the blowpipe analysis classes as heretofore, and to continue the assaying for the public.

BLOWPIPE ANALYSIS CLASSES.

These classes, though not quite so large as in former years, were well sustained, the upper class having five members, while there were nine in the lower class. Each class met thirty-two times during the year, with good average attendances.

The work undertaken comprised the qualitative testing of ores and compounds of antimony, arsenic, tin, zinc, bismuth, lead, copper, chrome, iron, nickel, cobalt, and manganese.

In addition to the foregoing, the boys in the upper class were trained to use a digger's dish as a means of prospecting for gold, and to take the specific gravity of an ore or a rock.

ASSAYING.

During the year twenty-six assays were made for the public. These embraced tests for gold, silver, platinum, phosphates, and cryolite. One sample of coal from the West Coast gave the following highly satisfactory results:—

								Per Cent.
Hydrocarbons	..	..	..	..	..	..	..	18.9
Fixed carbon	..	..	..	..	..	..	..	85.0
Water	..	..	..	..	..	..	..	1.1
Ash ..	..	..	..	..	..	..	..	5.0
								100.0

CONCLUSION.

Some green stains found upon rock which is being used for road-metal proved to be copper-carbonate. The quarry whence this rock was obtained is just outside the town-boundary on the Waka-puaka Road. The rock is feldspathic, and appears to be a decomposed andesitic rock. It is traversed by numerous veinlets of quartz, and the copper indications are in these veinlets. The quantity of copper is small, being only a little over a half of 1 per cent. The find, however, is interesting, as it might possibly indicate the presence of copper lodes quite close to the city.

A more convenient room has just been secured for the blowpipe analysis classes, and there are now twenty-four boys in these classes.

The Under-Secretary, Mines Department, Wellington.

I have, &c.,

W. F. WORLEY.

Mr. J. HENDERSON, M.A., B.Sc., Director, Reefton School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Reefton, 31st January, 1907.

I have the honour to submit the following report on the work of the Reefton School of Mines for the year 1906:—

The course of instruction was similar to that taken up in previous years, classes being held in chemistry, assaying, mathematics, surveying, mechanical drawing, and the various mining subjects.

The attendance, on the whole, may be considered satisfactory, there having been an average of twenty-seven students on the roll throughout the year.

At the annual December examinations Mr. W. M. Durant successfully competed for the University Scholarship offered by the Mines Department. At the examinations held in January, 1906, under the Mining Act, two students obtained battery-superintendents' certificates and one a partial pass.

During the year for the public 129 assays were made for gold, nine for antimony, five for tin (all negative), eleven for various metals, including lead, zinc, copper, besides several determinations for various minerals, rocks, and sands for monazite, which mineral seems to be widely distributed over the district. The increased number of assays was due to the impetus given prospecting by the discovery of the rich reefs at Blackwater Creek some time ago.

I have, &c.,

The Under-Secretary, Mines Department, Wellington.

J. HENDERSON,

Mr. A. H. V. MORGAN, M.A., Director of the Waihi School of Mines, to the UNDER-SECRETARY,
Mines Department, Wellington.

SIR,—

Waihi.

I have the honour to report as follows on the work of the Waihi School of Mines during 1906 :—

ATTENDANCE.

The attendance during the year was highly satisfactory, the average number of individual students being sixty-five, and the class attendance 171, as compared with an average of fifty-six students, with a class attendance of 113 during the preceding year. The following table shows the attendance for each term in the various classes :—

Table of Attendances for the Year 1906.

Name of Subject.	First Term.	Second Term.	Third Term.	Average.
Pure mathematics	38	36	20	31
Practical mathematics ... ..	...	...	18	18
Junior theoretical chemistry	14	13	10	12
Senior theoretical chemistry ... ..	...	...	4	4
Junior practical chemistry	21	11	11	14
Senior practical chemistry ... ..	...	10	6	8
Dry assaying	23	15	15	18
Metallurgy	12	13	11	12
Junior mining	5	8	7	7
Senior mining ... ..	...	...	7	7
Junior surveying	8	11	9	9
Senior surveying	8	9	8	8
Practical surveying ... ..	...	17	13	15
Drawing	16	19	18	18
Electrical engineering	19	14	15	16
Class attendance	164	176	172	171
Individual students	64	70	60	65

EXAMINATIONS.

At the annual examinations held in December twenty-five candidates presented themselves, sending in altogether seventy-two papers. The results are by far the best yet obtained, thirty-three first-class, twenty-two second-class, and eight third-class certificates having been secured. Mr. J. Livesey's gold medal for the highest marks in mining subjects was won by R. J. Morgan, with E. V. Turnbull eight marks behind. Mr. Robert Morgan's gold medal for the highest marks in any four subjects was won by C. Milne, with an average of 85 per cent. Mr. M. F. Haszard's gold medal for surveying was won by O. Bell, with 78 per cent.

Upon the recommendation of the conference of Directors of the northern schools of mines, the Mines Department last year instituted practical examinations in wet and dry assaying, bullion assaying, and chemistry.

The Customs Department also have agreed to grant bullion assayers' certificates to students who have been examined at this school and are certified by the Director to be competent assayers. Under this agreement two students—L. J. Shaw and J. Spearing—are entitled to the Customs certificate on the results of the last examinations.

At the examination for Government certificates last year students from the Waihi School of Mines were very successful. Three students sat for first-class mine-managers' certificates, and two—P. G. A. Mackie and R. R. Lewis—passed. For battery-superintendents' certificates seven students were examined, and all were successful, their names being R. J. Morgan, W. E. Williams, E. Johnson, H. Aitken, A. J. Walker, D. Anderson, and T. Clarke.

Since Waihi became a centre for examination—nine years ago—twenty-three students have passed as first-class metal-mine managers, two as coal-mine managers, and thirty-seven as battery-superintendents. In addition to these a number have gained second-class mine-managers and engine-drivers' certificates, bullion assayers' certificates, &c.

LABORATORY.

During the year seventy-eight assays and analyses were made for the public, a considerable proportion of which were for prospectors, and free of charge. Among them were the following :—

- (1.) A sample of silver-ore from Suva, containing 115 oz. of silver per ton.
- (2.) A sample from the Ruahine Mountains, near Woodville, supposed to contain platinum. No trace of platinum, however, was detected.
- (3.) Three samples of coal used for steam-raising by a local company: (a) consisted of slack, (b) of nuts, and (c) of steam-coal. They agreed very closely in composition, as the following analyses show :—

Proximate Analysis.

	(a.)	(b.)	(c.)
Moisture	13.9	13.6	12.7
Volatile combustible matter	34.4	35.6	36.8
Fixed carbon	49.3	48.5	48.3
Ash	2.4	2.3	2.2
	100.0	100.0	100.0

Ultimate Analysis.

	(a.)	(b.)	(c.)
Moisture	13.9	13.6	12.7
Ash	2.39	2.30	2.20
Sulphur	0.17	0.21	0.16
Carbon	57.16	57.10	57.74
Hydrogen	3.26	3.39	3.92
Nitrogen	0.28	0.18	0.20
Oxygen (by difference)	22.9	23.4	23.3
	100.06	100.18	100.22

GENERAL.

During the year the reference library has been enlarged by the purchase of new books to the value of £20, raised by half-crown subscriptions by the students, subsidised by the Council.

The geological collection has also been supplemented by donations of specimens from various donors.

The Mines Department kindly agreed to print 250 copies of a new syllabus for the school. These came to hand early in the present year, and will prove very useful.

At the annual meeting of subscribers, held in the school on the 22nd February, the following office-bearers were elected: Patron—W. H. Herries, M.H.R.; President—T. Gilmour; Vice-presidents—A. T. Kenrick and W. H. Johnston; Council—A. H. Bengé, F. M. Haszard, J. L. Gilmour, J. Livesey, E. J. Banks, C. F. Sims; students' representatives—F. Stewart and E. V. Turnbull.

In conclusion, I wish to express my appreciation of the zeal and ability displayed by Mr. F. T. Seelye, A.O.S.M., assistant lecturer; Mr. R. H. Mitchell, drawing-master; and Messrs. J. G. Lancaster, M.Sc., and G. Fairfield, instructors in electrical engineering. I take this opportunity also of conveying my sincere thanks to the Council and the Secretary for their unfailing support and assistance during the year.

I have, &c.,

A. H. V. MORGAN, Director.

REPORT OF THE COUNCIL.

In presenting its report for the year 1906, the retiring Council can congratulate the members and students on the excellent progress made by this school during the past year. From both the financial and educational points of view the school is now in a better and firmer condition than it was at the last annual meeting, and there are pleasing evidences that a greater interest is being taken in the work and advantages of the institution by the young men in our midst. Not only has the number of registered students increased, but the class attendance has largely improved, showing a more earnest endeavour to work on the part of those attending.

The average of registered students for the year 1906 numbered sixty-five, with a class attendance of 171. With the exception of the year 1903, when the attendance averaged sixty-eight, this is the highest record of the school, and compares favourably with both the years 1904 and 1905, which had respectively an average of fifty-eight and fifty-six, and a class attendance of 113 and 118.

At the annual examinations held last December, twenty-five students sat, gaining thirty-three first-class certificates, twenty-two second-class, and eight third-class, and obtaining eleven first places for the colony. In the previous year twenty-two students sat, gaining sixteen first-class, seventeen second-class, and six third-class certificates, and seven first places. The results for the past year are therefore highly satisfactory, and reflect great credit on the Director and his staff. The proportion, however, of students sitting for examination is still low compared with the total attendance, and an improvement in this respect is hoped for next year. The epidemic of influenza prevalent at the time, and difficulty of getting leave from work, account largely for the small number who presented themselves, many intending sitters being prevented from attending.

During the year the Council endeavoured to inaugurate classes for first aid to the injured, but so little interest was taken in the subject, and so few names were submitted as students, that the Council did not see its way to go further in the matter, and was obliged to let the project drop.

An effort was made to obtain free passes on the Government railway for students attending the school from Waikino and Owaharoa, but this request was refused by both Railway and Education Departments, on the ground that the school did not come under the heading of educational institutions mentioned by the Act.

At the beginning of the year a request was made to the Mines Department for a special grant to erect and equip a workshop for the electrical engineering classes, but no satisfactory decision has yet been received, and the proposal is still in a state of uncertainty.

The Council has not been able to make any change in the issue of certificates, or get this matter placed on a better footing, despite its efforts in that direction.

Further changes have taken place in the electrical classes during the year. In June Mr. Lancaster relinquished his duties to pursue his studies at the University, and was succeeded by Mr. Fairfield, the present instructor. As the work in connection with these classes in this school has increased immensely, and the time at the disposal of the instructor is limited, owing to his other duties at Thames and Karangahake, an application has been made to the Mines Department to appoint a separate instructor for this district, which has been favourably received, but not yet acceded to.

An attempt made during the year by the Otago University to reduce the underground term of service for mine-managers' certificates from five years to one, and to increase the technical portion of the examination, was strongly opposed by this Council, and has not been carried into effect.

A large number of prizes was offered for competition at the late examination, and the thanks of the Council are due to Messrs. Haszard, Livesey, and R. Morgan for their presentation of medals, and to Messrs. R. E. Williams, P. G. Morgan, D. J. Morgan, and others for subscriptions for this purpose.

The Council desires also to thank Messrs. P. G. Morgan, W. Ridings, M. J. Stewart, and Boyd Bennie for gifts of interesting and useful specimens.

It is gratifying to note that greater interest is being taken in the mining class, and that the attendance in this branch is steadily increasing.

At the end of the year the Council decided to offer a scholarship entitling the holder to free tuition at the school of mines for one year, available to any pupil attending a school within the Waihi Borough. Equal marks were obtained by two competitors, and the Council decided to admit both as scholarship students for the present year.

Arrangements have been made during the present year for instructing a class in architectural drawing, which should be largely attended.

Further much-needed alterations and additions have just been made to the school buildings, but with the large number of students attending the accommodation is at times somewhat taxed.

During the year the total receipts of the institution have been £931 18s., including a sum of £607 4s. paid by the Government in subsidies, and a donation of £150 from the Waihi Borough. An increase has taken place in students and members' fees, but the subscribers' list has not expanded appreciably, and it is to be regretted that more of our citizens do not take an interest in the school's welfare.

The total expenditure has amounted to £773 1s. 5d., including a grant of £25 to the Waikino School of Mines as previously arranged with the Borough Council, and an expenditure of £51 on furniture, gas-fittings, and repairs, leaving a balance to credit of £158 16s. 7d. A liability, however, of about £80 has been incurred during the recess in alterations and additions to the buildings, and this credit balance will now be reduced to about £70, but a further sum on subsidy and salary account is now due from the Mines Department.

In concluding this report the Council desires to express its appreciation of the able services rendered by the instructing staff through the year, and to thank those who have, by donations and personal assistance, contributed to the present satisfactory position of the institution.

Mr. SIDNEY FRY, Director of the Westport School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Westport, 4th May, 1907.

I have the honour to report on the work done by the Westport School of Mines during the last year as follows:—

The class attendance at the main school and its branches at Granity, Millerton, and Denniston has been fairly well maintained, the total average attendance being shown in the accompanying table:—

Subject.	Average Attendance.
Mechanical drawing	15
Chemistry (theoretical and practical)	16
Steam and steam-engines	13
Mineralogy	5
Assaying	5
Mine and land surveying	6
Mathematics	13
Mining	5

The annual schools of mines examinations were held in December last; five students presented themselves for examination, gaining one first-class, three second-class, and one third-class pass.

During the year sixty-seven assays for gold, silver, and other metals have been done, also nine analyses of coal, as well as other analyses for rare earths, identification of minerals and rocks, tests of clay for brickmaking, analysis of ointment, tests of samples supposed to be ambergria, &c. A moderate charge is made for quantitative analyses and assays, but minerals and ores are identified for prospectors in the district free of charge, and the greatest use is made of the facilities thus afforded by the school of mines.

The prize given by the proprietors of the *Australian Mining Standard* to each school of mines for the student most distinguishing himself at that school in subjects of the mining engineering course

has this year been awarded in this school to Mr. Charles Mann, a student in chemistry, assaying, and metallurgy.

In conclusion, I have pleasure in thanking those who have given assistance to the school during the year by presentation of minerals, ores, and rocks.

I have, &c.,

SIDNEY FRY, Director.

(d.) REPORTS OF WATER-RACE MANAGERS.

Mr. JAMES ROCHFORD, Manager of Waimea-Kumara Water-races, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Kumara, 25th April, 1907.

I have the honour to forward the following report on the working of the Waimea-Kumara Water-races for the financial year ending the 31st March, 1907 :—

WAIMEA RACE.

The cash received for sales of water from this race for the year ending 31st March, 1907, was £571 14s. 5d., and the expenditure for the same period on gauging, maintenance, and repairs amounted to £622 1s., showing a debit balance of £50 6s. 7d. on the transactions for the year.

The average number of miners supplied with water from the race for sluicing purposes during the year was 25·75, showing a decrease of 2·16 as compared with the previous year; and the approximate quantity of gold obtained by them was 1,626 oz., having a value of £6,341 8s.

The total sales of water for the year amounted to £544 0s. 1d., or £41 4s. 3d. less than the previous year. The falling-off in the value of the sales of water is due to the fact that the Waimea Hydraulic Sluicing Company only sluiced for six months of the year.

The quantity of gold obtained was, approximately, 134 oz. less than the preceding year, representing a decrease in value of £522 12s.

The cash received for sales of water was £52 4s. 9d. less than during the previous year.

The expenditure on gauging, maintenance, and repairs was £36 4s. 1d. less than during the preceding year, and the head-works at Wainihinihi and Kawhaka, and the Waimea siphon, the flumings and tunnels, and the main and branch races have been maintained, and are now in good working-order.

All the parties using water from the Stafford portion of the race are Chinamen, and the revenue derived from this section shows an increase of £7 over the previous year.

Owing to the depth of the ground, the area sluiced away annually is very small, so there is still plenty of unworked ground in the locality, which will probably pay fair wages, and I do not anticipate any falling-off in the demand for water for some time to come.

At Tunnel Terrace, in the Goldsborough portion of the district, there are six parties using water from the race, and the results for the year have been fairly satisfactory. There is still a large area of payable ground in this locality commanded by the Government race, and I feel satisfied that the demand for water will not only be maintained, but that the sales of water for the ensuing year from this section will show a substantial improvement.

The tributers of the Waimea Hydraulic Sluicing Company used water in their claim on the terrace above Goldsborough from April to August, 1906, when they abandoned the ground, as it was found that payable gold did not run back into the hill, a contingency which I mentioned as probable in my last annual report. The company immediately took up another area, at Scandinavian Hill, and after the Department had agreed to the extension of the Waimea Water-race they removed their valuable plant, and laid down a siphon, about a mile in length, to convey water on to their new property. This was a big undertaking, and the company deserve every credit for their enterprise; so far, they have only had one short washing, but I understand the result was satisfactory.

The Waimea Water-race was extended during the year for a distance of 27½ chains (including 5 chains of siphon) along Tunnel Terrace Hill, to enable the Hydraulic Sluicing Company to siphon the water across the Waimea Creek without interfering with any of the claims at present sluicing at Tunnel Terrace. The estimated cost of the extension was £147, and the work was carried out for about £18 under the estimate, but the balance of the grant was expended in increasing the carrying-capacity of the old race between the new extension and the company's old gauge-boxes.

The party of Chinamen at Red Jack's are still taking water from the race.

No stoppages from breaks occurred during the year.

Notwithstanding the fact that the year was exceptionally dry, the water-supply kept up splendidly, the Waimea siphon being practically full during the whole time. The demand for water was not as great as last year; this was due to the fact that three claims ceased sluicing operations at Middle Branch Flat, and the Hydraulic Company were engaged for five months of the year in removing and re-erecting their plant.

No free water was supplied from this race during the year.

The following is a summary showing the revenue and expenditure in regard to this race for the financial year ended 31st March, 1907 :—

	£	s.	d.
Sales of water	544	0	1
Cash received	571	14	5
Expenditure	622	1	0
Approximate value of gold obtained	6,341	8	0

Average number of men employed, 25·75.

Branch Race to Callaghan's and Middle Branch of Waimea Creek.

The cash received for sales of water from this race for the year ending 31st March, 1907, was £729 8s. 8d., and the expenditure for the same period on gauging, maintenance, and repairs was £664 1s. 2d., showing a credit balance of £65 7s. 6d. on the transactions for the year.

The average number of miners supplied with water for sluicing purposes from this race during the year was 11.75, a decrease of 2.75 as compared with last year, and the approximate quantity of gold obtained by them was 1,731 oz., having a value of £6,750 18s. The total sales of water for the year amounted to £681 1s. 6d., a decrease of £14 0s. 9d. on the preceding year, and the cash received for sales of water showed an increase of £7 3s. 6d.

The approximate quantity of gold obtained by the miners was 20 oz. less than during the previous year, representing a decrease in value of £78.

The expenditure on gauging, maintenance, and repairs during the year was £102 10s. 9d. greater than the previous year. This apparent increase in the expenditure is caused by the fact that the salary of the caretaker of the Wainihinihi Water-race, which supplies the Callaghan's and Middle Branch fields with water, has been debited against the race. If this salary, which amounted to £157, had not been included, as in former years, the expenditure would have shown a decrease of £54 9s. 3d. on the previous year.

For the first five months of the year six parties were sluicing into the Waimea Main Tail-race, but owing to the poorness of the ground Thompson and party abandoned their claim at the end of July, and in December Carmine and party worked out their claim, and McIlroy and party suspended operations pending the completion of the Waimea Main Tail-race extension, so that there were only three parties sluicing into the Main Tail-race during the last three months of the year, which materially reduced the sales of water.

Raby and party extended the Main Tail-race a further distance of 140 ft. during the year, making the total distance driven and securely timbered by this party 340 ft. The boxing and blocking will be completed in about a fortnight, when an uprise will be made into McIlroy's claim, and then Raby and party will be in a position to open out their ground.

Flushing-water was supplied to the Waimea Main Tail-race during the year free of charge.

In Callaghan's Flat, Havill and party, who were leasing Honey and party's claim, sluiced for the first ten months of the year, when they gave up the ground and opened out a new claim, which is taking sixteen heads of water for three hours a day. Manzoni and party sluiced steadily throughout the year, during which time they paid £118 15s. for water, which must be considered highly satisfactory, and more than bears out my report of the 25th September, 1905, on the extension of the Callaghan's Water-race. The extension cost the Department £145, and the revenue received since its completion amounts to £134, and the pipes are as good as new. As there is still a large extent of unworked ground in this locality, I do not anticipate any falling-off in revenue for some time to come.

The following is a summary of the revenue and expenditure in regard to this race during the financial year ended 31st March, 1907 :—

	£	s.	d.
Sales of water	681	1	6
Cash received	729	8	8
Expenditure	664	1	2
Value of gold obtained	6,750	18	0

Number of persons ordinarily employed, 11.75.

KUMARA RACE.

The cash received for sales of water from this race for the year ending 31st March, 1907, was £532 6s. 10d., and the expenditure for the same period on gauging, maintenance, and repairs was £740 12s. 8d., showing a debit balance of £208 5s. 10d. on the transactions of the year.

The average number of miners supplied with water from this race during the year was sixteen, a decrease of 0.66 as compared with the previous year; and the approximate quantity of gold obtained by them was 1,000 oz., of the value of £3,900.

The total sales of water for the year amounted to £502 2s. 2d., an increase of £64 on the preceding year, and the cash received for sales of water shows an increase of £80 16s. 6d.

The approximate quantity of gold obtained by the miners was 122 oz. more than during the previous year, representing an increase in value of £475 16s.

The expenditure on gauging, maintenance, and repairs was £137 5s. 8d. less than during the preceding year, and all the races, branch races, tunnels, and siphons are now in a thorough state of repair. The overflow from the No. 2 Kapitea Dam has for some time been gradually cutting away the foundation of the by-wash. This by-wash, which is a timber structure, was erected over twenty years ago, and is in a very decayed condition. At the present time I have men engaged putting in a new foundation, and it is probable that the whole of the planking will require renewing.

There has been no sluicing done in the No. 3 channel during the year, but the sum of £46 1s. 2d. was expended in labour and material in effecting urgent repairs.

The No. 3 channel deviation has been driven, fully timbered, boxed, and blocked for a distance of 2,227 ft. The flush-shaft at the head of the deviation has yet to be sunk; when it is completed the parties holding ground will be in a position to drive tail-races and open out their claims, but no sluicing can be carried out in this channel until the extension from the mouth of the channel outwards along the old tailings is relaid.

The two original parties are still sluicing into the No. 4 channel, but the results for the year have not been very satisfactory. The ground is gradually getting poorer as they work down the flat towards

the No. 5 channel, and it is only by using very large quantities of water and sluicing on a big scale that anything like payable returns can be obtained. If the ground proves payable, both parties have still a fairly large area to work.

There are still two parties sluicing into the No. 5 channel, and each of them has a considerable extent of ground yet to work; but the returns for the past year have not been encouraging, and it is probable that some of the ground will yet be abandoned. As there are only two parties sluicing into each of these channels, the dues for extension and keeping the floor in good order are very heavy, without spending anything on retimbering or other repairs; in addition to this, each party has a long private tail-race to maintain. When a channel is first constructed it is an invariable rule that the largest number of parties sluice into it during the first four or five years, and as the timber is new the maintenance is comparatively small, and a reserve fund should then be set aside by the trustees for retimbering at a future date.

McGrath and Co.'s was the only private tail-race supplied with water from this race during the year.

The Corbit Bros. erected a flax-mill in February last on the tailings near the old No. 2 channel. The plant is run by water-power, and works most satisfactorily. The water is supplied from the Government race at Dillmanstown.

The usual quantity of flushing-water authorised by the Department was supplied to each of the main tail-races—viz., No. 4. channel, ten sluice-heads; No. 5 channel, twenty sluice-heads.

Water was supplied for fire-brigade purposes to the Borough of Kumara, and for washing-up purposes to all claims using water from the race free of charge.

Prospecting.

Prospecting operations were carried out by the Mines Department in the flat between Kumara and the railway-line for the first three months of the year. A line of shafts was sunk from the Kumara Beach Road to the foot of the ridge at Sandy's Hill. Owing to heavy water being met with at a depth of about 70 ft., none of the shafts reached the reef or main bottom, but they were all sunk below the false bottom, or the level of the Kumara workings, which was generally found between the depths of 26 ft. and 34 ft., and, with the exception of the No. 1 shaft, none of them showed the slightest indication of gold below that level. The general opinion was that the ground would improve the nearer we got to the ridge at Sandy's Hill, but my experience proved quite the opposite—the further we went back from the Teremakau River the poorer the ground became. The average yield from the last four shafts from the surface to the level of the false bottom was $\frac{1}{4}$ gr. to the cubic yard, which would not give payable results if worked under the most favourable conditions. A fairly large area of country was also prospected in the neighbourhood of the Serpentine Creek, where seven shafts, varying in depth from 20 ft. to 40 ft., were sunk, and a tunnel about 200 ft. in length was driven; but with the exception of two shallow shafts in the bed of the Serpentine Creek, near Berdinner's old camp, the results obtained were most unsatisfactory. In October last the Department granted a subsidy of £100, at the rate of 4s. a foot, to sink shafts on the north side of the Teremakau River, but owing to the very heavy nature of the ground I could not get a party to undertake the work at the price. Eventually, Mrs. Dixon, the proprietress of the Erin-go-Bragh Water-race, which commands a considerable portion of the ground, agreed to give an additional 2s. a foot up to £50. This brought the total subsidy up to £150, at the rate of 6s. a foot, and a party was formed, and sinking operations were started last week. There is a very extensive area of ground in this locality, and also at the head of Larrikin's Flat, in the Kapitea Valley, practically unprospected, and the formation of the surrounding country points to the conclusion that the Kumara gold crossed the country in a westerly direction from Maori Point, or came down the Kapitea Valley from the Arahura River.

Kumara Deep-level Drainage-tunnel.

This work was resumed in May last by constructing a shoot for sending down timber from the Dillman's Road, and erecting an incline tramway and haulage-gear for lifting the dirt out of the water-way at the mouth of the tunnel. When the work of repairing was taken in hand the tunnel was found to be in a very bad state. Most of the timber was in a very decayed condition, and had to be renewed before men could work under it. Owing to the collapse of the old shaft and the breaks in the tunnel there was no ventilation, and it was found impossible to keep a light burning 300 ft. from the mouth of the tunnel, so water was laid on from the Government race at Dillmanstown. Ventilating-gear was erected, and the air conveyed up the tunnel in 4 in. pipes. The tunnel was down and filled to the roof in seven different places; the water was backed up behind each of these breaks, and running over the roof-laths, which made the work of repairing not only slow but extremely dangerous. After the tunnel was picked up and repaired from the mouth to the old face, a distance of about 1,300 ft., it was driven in the blue reef, and fully timbered for a further distance of 87 ft. A haulage-shaft (10 ft. by 4 ft.) was started in January, but, unfortunately, at a depth of 50 ft. a large cavity was met with, which was caused by a run from the old No. 1 channel or some tail-race leading into it, whose position could not be located, as they have been down for years. The difference in level showed that the ground must have run for 50 ft., so it was considered too expensive and dangerous to continue sinking, and the shaft was abandoned, and a new one started, which is now down to a depth of 104 ft.

The following is a summary of the revenue and expenditure in regard to this race during the financial year ended 31st March, 1907:—

	£	s.	d.
Sales of water	502	2	2
Cash received	532	6	10
Expenditure	740	12	8
Value of gold obtained	3,900	0	0

Average number of persons ordinarily employed, 16.

WAIMEA-KUMARA WATER-RACE.

The following is a summary of the revenue and expenditure in regard to this race for the financial year ended 31st March, 1907:—

	£	s.	d.
Sales of water	1,727	3	9
Cash received	1,833	9	11
Expenditure	2,026	14	10
Value of gold obtained	16,992	6	0

Number of men ordinarily employed, 53.5.

The sum of £168 13s. 9d., in addition, was expended on new work and repairs.

It will be seen by the above summary that the value of sales of water from the combined races last year was £1,727 3s. 9d., as against £1,718 8s. 9d. for the previous year, thus showing an increase in the value of the sales of water last year of £8 15s.

The expenditure on gauging, maintenance, and repairs was £2,026 14s. 10d., as against £2,097 13s. 10d. for the former year, thus showing a decrease in the cost of maintenance last year of £70 19s.

The cash received during the year was £1,833 9s. 11d., as against £1,797 14s. 8d. for the previous year, thus showing an increase in revenue of £35 15s. 3d. on the previous year.

WAINIHINGI WATER-RACE.

The supply of water from this race has been excellent throughout the year, and, together with the water from the Kawhaka Race, has kept the Waimea siphon (which supplies the Waimea, Callaghan's, and Middle Branch Races) full all the year. No breaks occurred and there were no stoppages of any kind, and the race has been well maintained and is now in a thorough state of repair.

I have, &c.,

JAMES ROCHFORD,
Manager, Water-races.

Mr. R. MURRAY, Manager, Mount Ida Water-race, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Naseby, 25th April, 1907.

I have the honour to submit the following report on the Mount Ida and Blackstone Hill Water-races for the year ending the 31st March, 1907:—

The total sales of water from the Mount Ida Race during the year amounted to £817 17s. 11d. The expenditure on maintenance and repairs for the same period was £1,455 10s. 8d., a decrease of £35 7s. 10d. on that of last year. The total cash received was £815 12s. 11d. On account of payment in advance, free water to the value of £1 8s. 1d. was supplied, and free water for washing up was also supplied to the value of £56 3s. 5d. The total value of water supplied from this race during the year amounted to £875 9s. 5d. The average number of miners supplied with water was forty-four, a decrease of two on that of last year. The approximate quantity of gold obtained by parties using water from this race was 1,316 oz., valued at £5,099 10s.

The season has been an extraordinarily dry one, the driest within the memory of the oldest inhabitant. From the 1st to the 20th April, 1906, the water-supply in the whole length of the race was reduced to twelve heads and the reservoir empty. The miners were on half time from this on to the 1st May, when the weather became very rough, with several light falls of snow, allowing the reservoir to be closed down and the miners to be fully supplied.

During this month the race near the outlet end of the Wedderburn siphon, where it is cut through a narrow belt of lignite clay, began to slip. To prevent its overflowing and breaking-away I had it temporarily sodded, to allow of a certain quantity of water through, to supplement and save that in the reservoir to this extent.

On the 24th June a heavy fall of snow took place during the night-time, followed by severe frost; on the 26th a sudden thaw set in: the thaw coming so sudden after the hard frost caused the race, when slipping, to break away. This being followed by snowing and freezing, I could not get to repair it until about the middle of July. The supply during this time had to be practically drawn from that in the reservoir. I was able to make a permanent job of it when cleaning out the race in the spring.

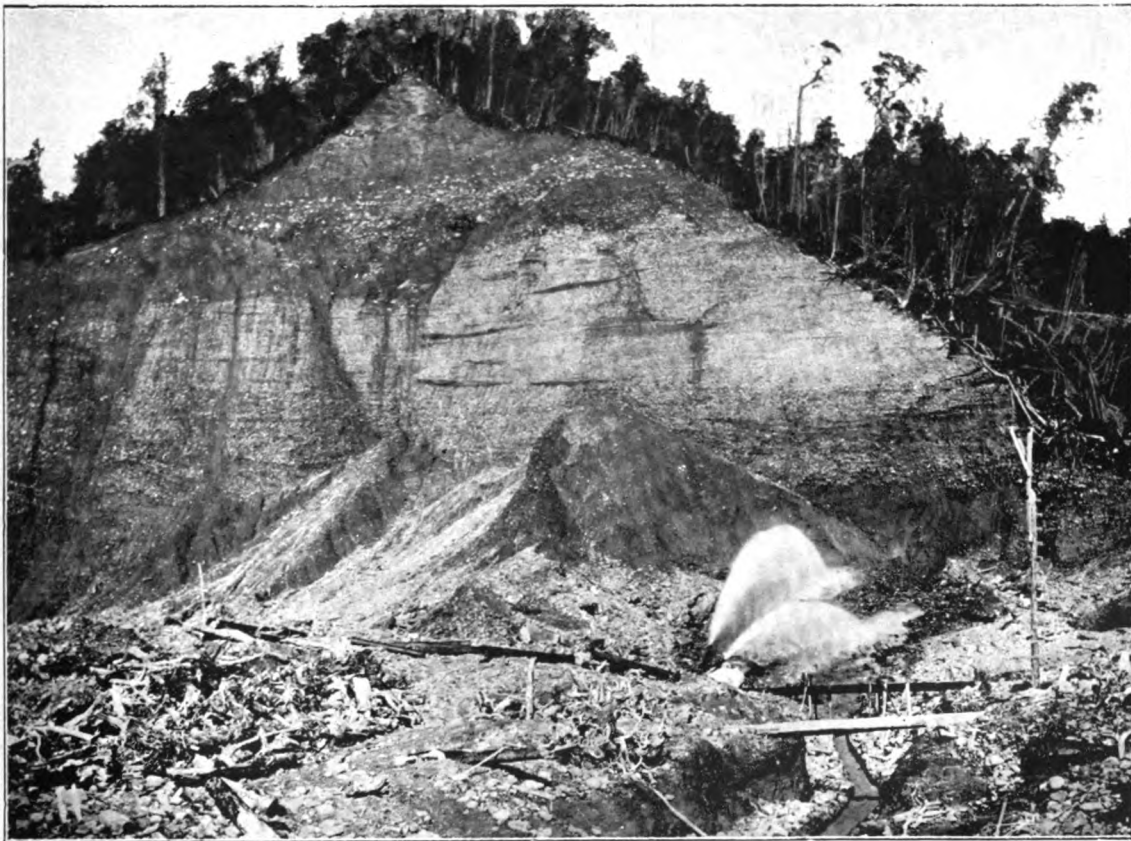
Most of the ground-sluicers, on account of the changeable weather, knocked off in July. The whole of the miners knocked off on the 12th August, but, a thaw setting in on the 14th, they made a start again, but as there was very little water in the creeks supplying the race, they had to practically draw the supply from the reservoir, which ran dry on the 24th.

On the 27th a start was made to clean out the race. There being so little water in the creeks, and the reservoir empty, no water was turned on to the miners until the 26th September, when Hill's Creek, the twenty-seventh-mile peg, was reached, the small quantity from this inward being stored in the dams. The effect of the freezing, snowing, and thawing often caused a large amount of stuff to be loosened along the upper sidelings and into the race, and made the cleaning-out very heavy. The cleaning-out was completed on the 19th October.

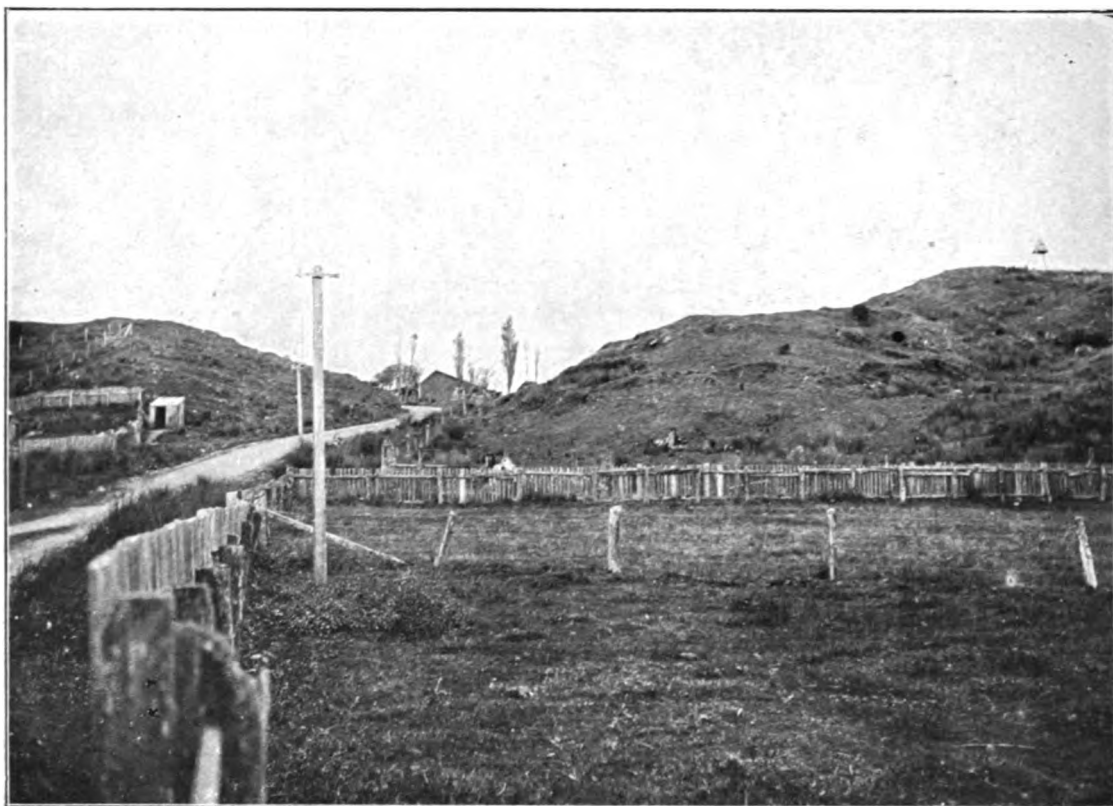
On account of another elevating claim starting in Spec Gully, I had to widen this branch to 4ft. a length of about five miles, and to place a length of 102 ft. of 19-in.-diameter pipes across a break, as timber does not last, always giving trouble and expense; also a small culvert bridge had to be constructed where the Burster Road crosses it, and 24 ft. of boxes across a small creek, at the head of Milkman's Gully. A 6 ft. sheep-bridge was also required on account of the widening, and one renewed on the main race.



THE HUMPHREY'S GULLY BEDS, NEAR HUMPHREY'S GULLY.



THE HUMPHREY'S GULLY BEDS, overlain unconformably by morainic materials.



THE TERMINAL MORaine, NEAR KANIERI TOWNSHIP.



SLUCED GROUND, NEAR RIMU.

The supplying race from Enterprise Terrace dam kept scouring so much that to prevent this I had it stepped with 4 ft. lengths of corrugated iron, which has answered the purpose very well, and cheaply. I also had to scrub the water face of one of the dam-banks where the high winds were eating it away.

A thunderstorm lasting for half an hour broke through one of the dam-banks on Wet Gully Terrace. I had it repaired in two days, and the water on again.

The season has been so extraordinarily dry that on an average the water-supply did not give more than half time to the miners (week about) in January, and to the 12th February not more than six heads in the whole length of race could be landed at Naseby.

On the 18th February I started to clean and widen the race from 4 ft. to 6 ft. from the Idaburn to Hill's Creek, a length of $13\frac{1}{2}$ miles.

The race has been very free from breaks, only two during the season being reported.

Sixteen elevating claims have been at work in the district during the year, twelve of them being supplied from the Government race.

Three parties have been during the year sluicing in the Maori bottom.

The number of days on which no water was supplied was: Winter and widening, 51; Christmas, 1; New Year, 1; Naseby races, 2: a total of fifty-five days.

The winter was a short and open one.

No new ground has been opened during the year.

BLACKSTONE HILL RACE.

The total sales of water from this race during the year amounted to £25. The total cash received was £25. The total cost of maintenance and repairs was 16s. The number of miners supplied with water was three, R. Johnstone and Sons being the only ones.

This race having had a good cleaning-out last year, only two days' work by one man was required this year.

R. Johnstone and Sons were granted four months' free water to test deep ground below but alongside of where they have been working, having had to deepen their tail-race to get into it.

I have, &c.;

R. MURRAY, Manager.

(c.) REPORT OF THE DIRECTOR OF THE GEOLOGICAL SURVEY DEPARTMENT.

JAMES MACKINTOSH BELL, Director, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Wellington, 31st December, 1906.

In accordance with your instructions, I have the honour herewith to submit to you a statement of the work of the Geological Survey Department for the year ending the 31st December, 1906. The present report is a brief summary of the routine and field-work of the Survey. The annual report of the Geological Survey Department for the year 1906, now being prepared, which is this session to be presented to Parliament as a separate parliamentary paper, will contain a more detailed account of the work accomplished, together with the reports of the various officers.

FIELD AND ROUTINE WORK FOR THE YEAR.

With the exception of the period from the 13th April to the 8th September, I was occupied throughout the year practically continuously in field-work.

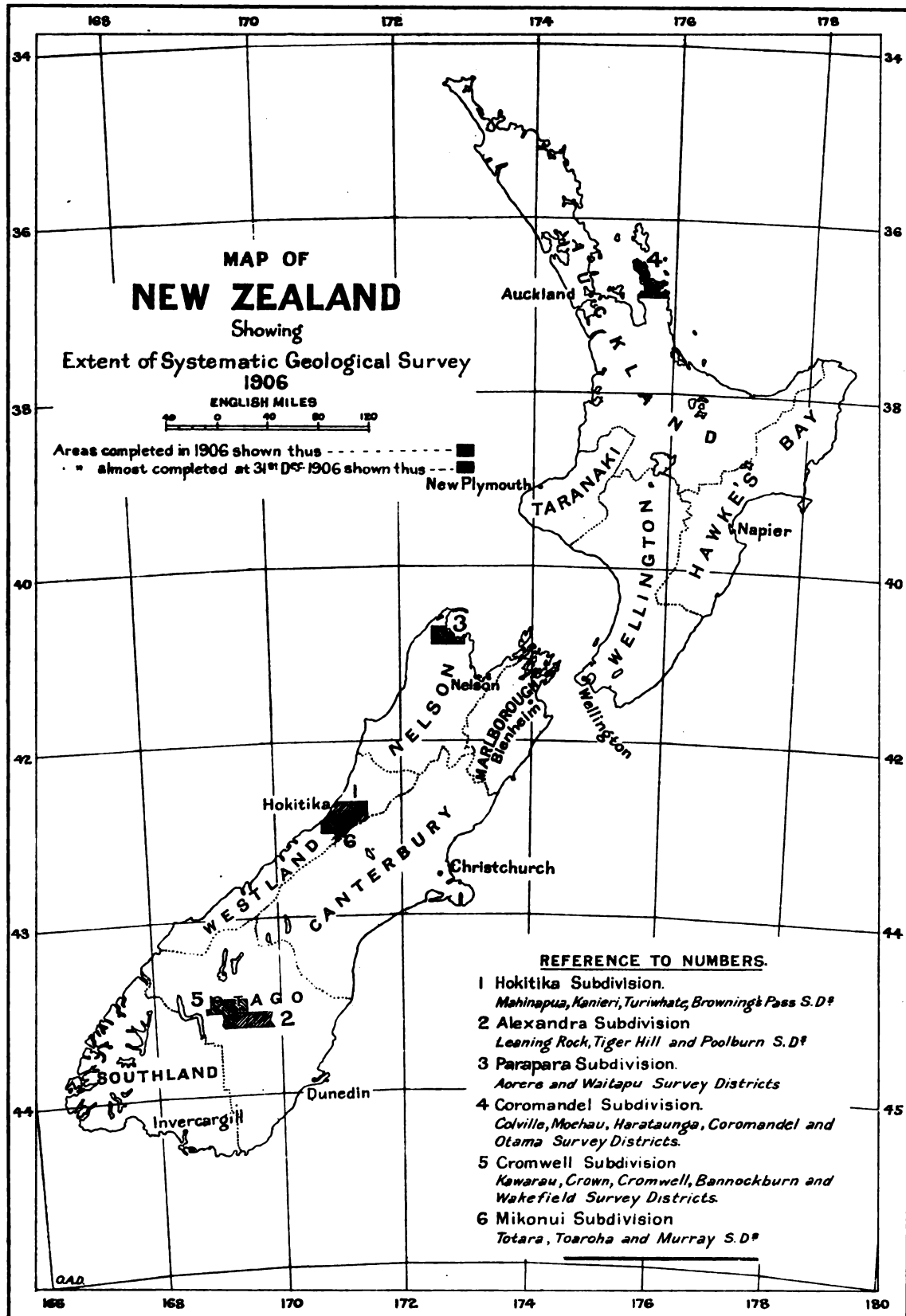
As stated in last year's report, at the close of the year 1905 I was engaged with Mr. Colin Fraser, Mining Geologist, in the geological survey of the Coromandel Subdivision, Hauraki. Early in January, feeling that the work was well under way, I proceeded to Auckland, leaving Mr. Fraser in charge. While in Auckland I paid a brief visit to the Drury Coal-mine, and attended to other departmental matters. On the 22nd January I left Auckland, and proceeded south *via* the Wanganui River. At Wellington and Christchurch it was necessary to spend a few days in attending to departmental business, but by the beginning of February I was able to join Professor Park in Central Otago, where he was engaged in the geological survey of the Alexandra Subdivision. After spending a few days with Professor Park, in order to familiarise myself with the interesting work which he had in hand, I set out for the Hermitage, Mount Cook. The route followed was by the road from Cromwell to Queenstown, from there across the Clutha River to Tarras Station, on to Omarama and Lake Pukaki, and thence to the Hermitage. Some ten days were spent in the Mount Cook district, and a very good general idea was obtained of this centre of glaciation in New Zealand. As a stranger to the country, I was greatly impressed with the magnificence of the ice-features, and their really wonderful proportions.

On the 26th February I left the Hermitage in company with Dr. Marshall, of Otago University, and Guide Clarke, *en route* for the west coast. Having crossed the lofty mountain *col* known as Fitzgerald Pass, we descended the valley of the Copland. This river was followed to its junction with the Karangarua, down which we continued to the main south road of Westland.

Early in March, after traversing Arthur's Pass, I joined Mr. Colin Fraser at the head of the Wilberforce River. Mr. Fraser, who had left his work in the Hauraki Division in order to assist me in Westland, so that a bulletin on the Hokitika Subdivision could be published during the coming session, was at the time engaged in a geological survey of the area included within the Westland reefs mining district. This district lies within the area drained by the head-waters of the Wilberforce River, a tributary of the Rakaia, flowing eastward through Canterbury, and by the head-waters of the Arahura River flowing westward through Westland, and, together with the adjoining mountainous country, occupied the united attention of Mr. Fraser and myself for the rest of the season.

During the winter months I was engaged at headquarters in the preparation of Bulletin No. 1 on the Hokitika Subdivision of the North Westland Division, in writing the annual report, and in attending to numerous other matters arising out of the departmental work throughout the colony.

Work in Southern Part of the Hot Lakes District.—On the 8th September I left Wellington in order to make a brief reconnaissance in the central volcanic area of the North Island. This season's investigations were confined to the southern part of the Taupo volcanic zone—namely,



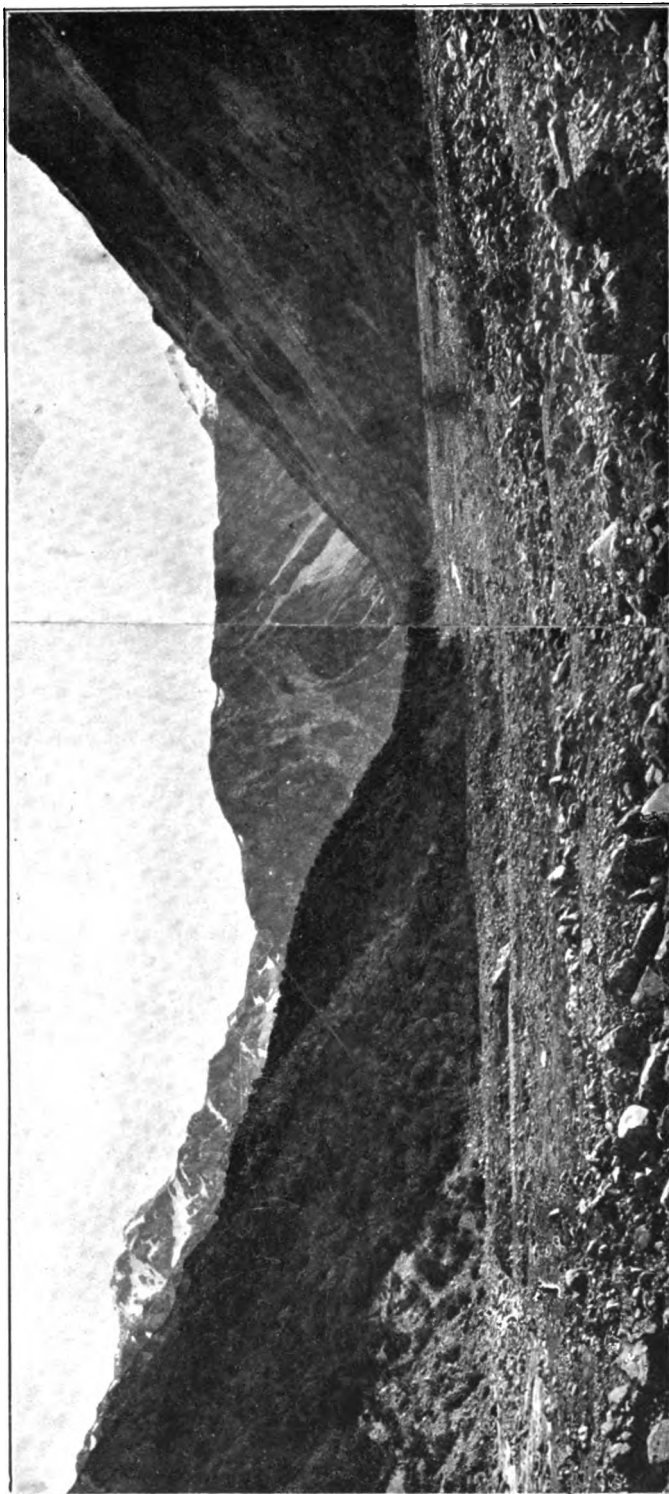
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VALLEY OF THE TAIPO RIVER, WITH MOUNT WALCOTT ON THE RIGHT.



THE MORAINES OF GRIFFITHS GLACIER.



BROWNING'S PASS, SHOWING TWIN PEAKS AND MOUNT HERMAN, FROM BED OF UPPER WILBERFORCE RIVER.

to the thermal centres of Wairakei, Taupo, Orakeikorako, and Tokaanu. A hurried trip was made to the volcanic cones of Ruapehu and Ngauruhoe, but the heavy snow which covered their summits and the plain between the two mountains prevented an adequate examination being made.

In my annual statement for 1905 attention was drawn to the remarkable occurrence of gold and silver in appreciable quantities in the siliceous sinters at Whakarewarewa, in the Hot Lakes District. In that statement the hope was expressed that a detailed survey of this wonderful thermal region would soon be undertaken. The necessity for such a survey becomes more and more apparent as our information concerning the area increases.

Samples of sinter collected this season from a number of widely separated localities on analysis yielded, like those from Whakarewarewa, results of great interest in the science of economic geology, owing to the illuminating evidence they afford as to the origin of metals in quartz veins. A detailed study of all the springs in the Taupo volcanic zone should be of great advantage, as bearing on aurogenesis in New Zealand as well as in other parts of the world.

Visit to Poverty Bay Petroleum-field.—Before returning to Wellington from Taupo I paid a very short visit to the petroleum-bearing country near Gisborne, and made a preliminary investigation of the valleys of the Waihuka and Waipaoa Rivers, in both of which indications of petroleum have been known to exist for some time. Boring operations have been carried out in the past along the Waipaoa and its tributary, the Waingaromia, but with little success. Apparently much the best indications are to be observed on Waitangi Hill, which forms a prominent point on the ridge between these two streams. Here a number of springs ooze out along the banks of a small stream and form pools, which are heavily coated with crude petroleum.

Parapara Subdivision.—About the middle of October I left Wellington in order to undertake the detailed survey of the Parapara Subdivision, Karamea, Nelson. After spending a few days in the Town of Nelson, and obtaining from the Lands and Survey Department some data necessary for the conduct of the work, I left for Parapara, reaching that place on the 20th October.

Operations in the Parapara Subdivision are now proceeding, and it is expected that the field-work will be completed in about three months' time. In this area assistance on the geological side of the work has been afforded me by Messrs. E. J. H. Webb and E. de C. Clarke, who have joined the Department this year as assistant geologists, while the topographical work was for some time under the supervision of Mr. R. P. Greville. After Mr. Greville's departure to attend to other duties, Mr. K. M. Graham, assistant topographer, continued the topographical survey under my direction. As a bulletin dealing with the geology of the subdivision will be prepared for publication as soon as possible after the completion of the field-work, a full report is not required here, but it may be desirable to give a brief account of the various economic features being investigated, omitting for the present any reference to the general geology.

Of the greatest economic and scientific interest are the enormous deposits of iron-ore, which appear on the surface near Parapara Inlet, and extend southward for seven miles and a half, with a maximum width of about 26 chains. Though the outcrops are not continuous for this distance, there is undoubtedly a genetic connection between the whole of them. The exact nature and extent of these huge ore-bodies is too large a problem to enter into here, but it will be discussed in great detail in the forthcoming bulletin on the Parapara Subdivision.

Quartz veins occur throughout the Palaeozoic strata (Ordovician and so-called Devonian). Most of these are apparently of low grade, but at the time of writing by far the greatest number have not been fully tested. The Golden Blocks and the Golden Ridge Mines, both of which will be described in the bulletin on the Parapara Subdivision, are being worked on auriferous-quartz veins occurring in argillaceous strata of undoubted Ordovician age.

Gold-bearing gravels have been worked for more than half a century in the Parapara Subdivision, but the richest portions were long ago exhausted. Gold, however, is still being obtained, mainly by means of hydraulic sluicing.

The coal-seams of the subdivision are apparently not of great extent, but have not yet been fully investigated.

The subdivision abounds in granites, serpentines, and marbles of various colours, many of which are often of great beauty and high quality. Clay, said to be capable of use in the manufacture of fine pottery, occurs in Motupipi, whilst more ordinary clays, suitable for rough pottery and for brickmaking, are widely scattered throughout the subdivision. Impure talcs and soap-stones, capable of commercial use, occur on the Waikoromumu and on the Parapara River.

It will be seen from this brief *résumé* that the economic mineral resources of the area represent a great variety. Each phase of the mineral wealth will be elaborated in full detail in the forthcoming bulletin on the Parapara Subdivision.

WORK OF SENIOR FIELD OFFICERS.

Mr. P. G. Morgan.—Mr. P. G. Morgan, General Geologist, has been engaged almost continuously throughout the year at work in Westland, being absent therefrom for only a few months during the middle of winter, when he was engaged at headquarters in preliminary work in connection with his maps and other office-work.

The Mikonui Subdivision of North Westland, in which Mr. Morgan has carried on most of his work, is a large area, consisting in a great measure of extremely rugged mountainous country. The excessive rainfall and the absence of transport facilities add to the difficulties of survey-work in this region. Though a considerable portion of the subdivision has been geologically surveyed during the year, it is probable that part of another season will be required to complete the work in this area.

Mr. Morgan reports the universal occurrence of alluvial gold in small quantities at the head of the Hokitika and other streams traversing the mountainous hinterland of the subdivision.

Many quartz reefs were located by Mr. Morgan, the majority of which appear to be barren, though a few give more or less promise. Indications of copper and other metals were seen, but the metals were nowhere found to exist in payable quantity. In connection with the Pounamu or serpentine formation, small pockets of asbestos of good quality were noted in several localities. Mr. Morgan also reports the occurrence in the Mikonui Subdivision of various building and ornamental stones, such as granite, serpentine, limestone, basalt, &c.

Mr. Colin Fraser.—During the past year Mr. Colin Fraser, Mining Geologist, was occupied chiefly in geological field-work in the Coromandel Subdivision of the Hauraki Division, and in the Hokitika Subdivision of North Westland. In addition to this he was engaged at headquarters for several months assisting in the preparation of Bulletin No. 1, and in general office-work.

The area now under examination by this officer is a very interesting one, consisting geologically of old stratified and folded rocks overlain by Tertiary volcanics extravasated at several different periods, and exhibiting frequently great alteration by hydrothermal agencies. Of great interest in structural geology is the discovery by Mr. Fraser of identifiable fossils in the upper members of the older sedimentary rocks of the Hauraki Peninsula. Identification of these fossil forms will probably demonstrate that the upper beds of the folded complex are of lesser antiquity than has heretofore been supposed.

Mr. Fraser reports fully on the gold-silver quartz veins and other mineral resources of the Coromandel Subdivision investigated by him, but as it is expected that he will be able to prepare a bulletin for publication during the coming session of Parliament, further reference to this branch of his work may for the present be omitted.

Mr. R. P. Greville.—Mr. R. P. Greville, Topographer, was engaged during the early part of the year in executing surveys in the rugged interior of North Westland, and in the Wilberforce District, Canterbury. During the winter he was occupied in compiling his maps at headquarters. At the beginning of spring he proceeded to Parapara, and organized survey parties under Mr. K. M. Graham, the newly appointed Assistant Topographer, and Mr. A. J. Whitehorn, Senior Chainman. Early in October Mr. Greville took charge of the Geological Survey exhibit at the New Zealand International Exhibition, and towards the close of the year he continued the topographical survey in the Mikonui Subdivision, in which he had been engaged at the end of the previous season.

In his report Mr. Greville gives a general account of the topographical-survey work executed by him, and makes particular reference to the possibilities of the Toaroha River as a source of water-power, which could be utilised throughout the whole of North Westland. Reference to this was also made in my report for the year 1905.

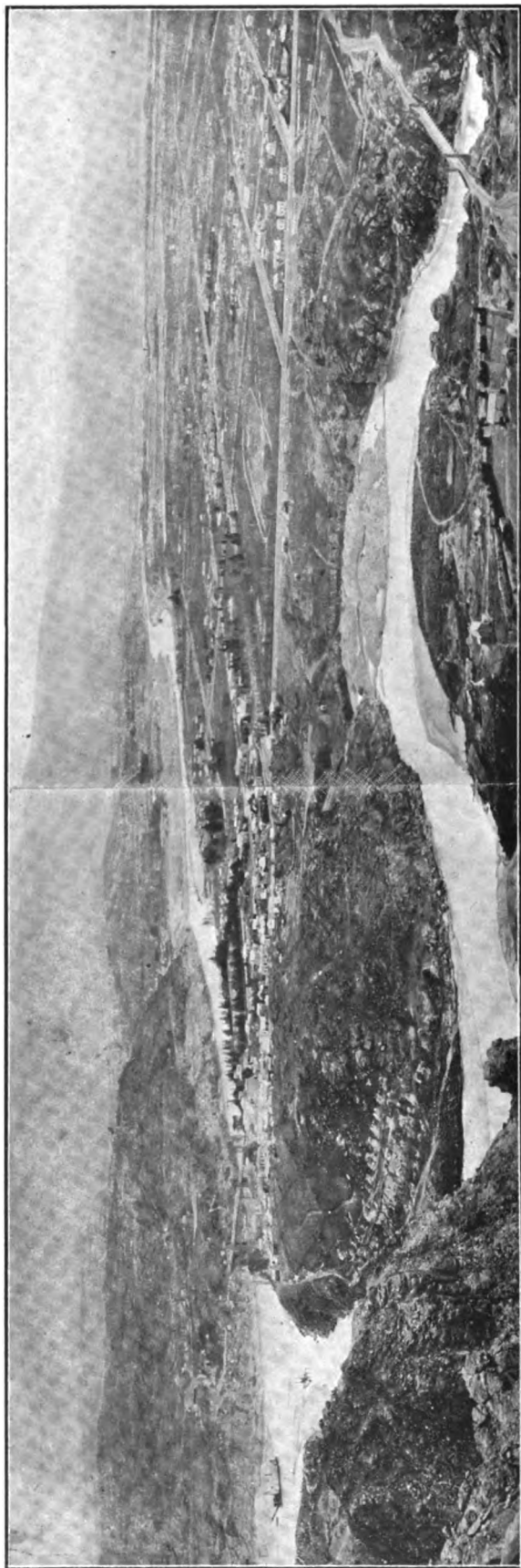
TEMPORARY ASSISTANCE.

At the beginning of the year Professor James Park, Director of the Otago School of Mines, was engaged in the Alexandra Subdivision of Central Otago. A bulletin on this area from the pen of Professor Park was presented to Parliament during last session. This summer he is engaged on the geological survey of the Cromwell Subdivision of Western Otago.

Mr. D. V. Allen, Director of the Coromandel School of Mines, was engaged for a period of six weeks during the summer vacation of 1905-6, to assist Mr. Colin Fraser in the Coromandel Subdivision, and carried out a geological examination in the Cabbage Bay district. Mr. Allen has been engaged for a similar period during the present summer, and at the time of writing is occupied in the detailed survey of the Whangapoua Valley.

GEOLOGICAL SURVEY EXHIBIT AT THE NEW ZEALAND INTERNATIONAL EXHIBITION.

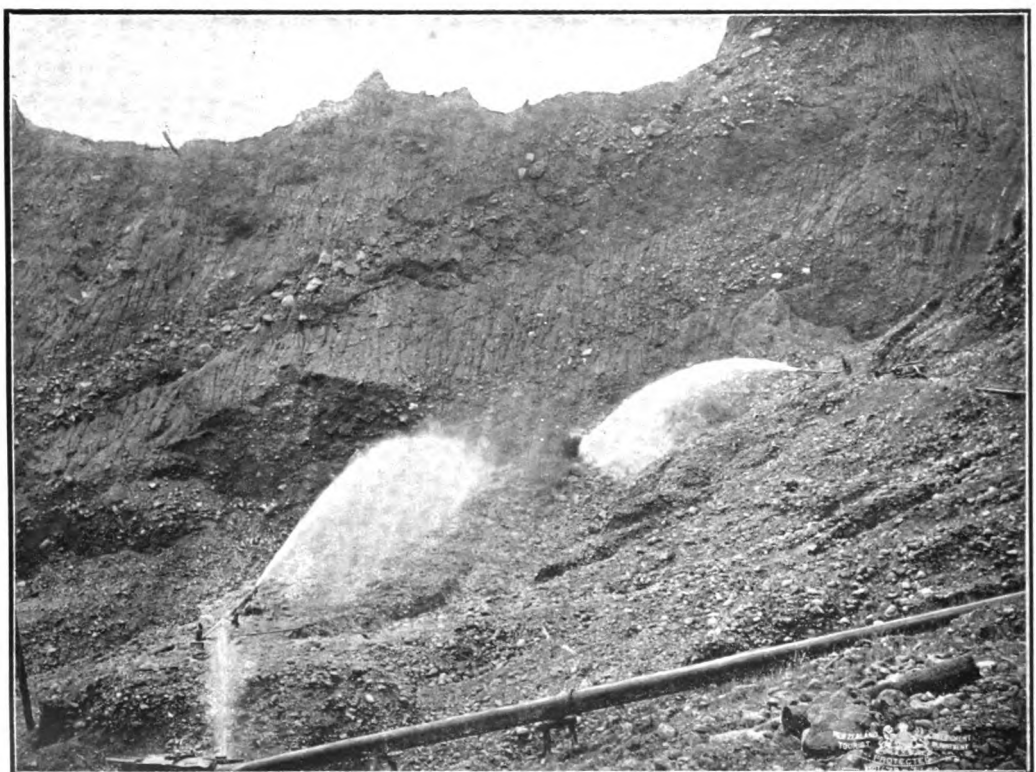
During the year it was decided to prepare a Geological Survey exhibit for the New Zealand International Exhibition at Christchurch. Owing to the very short time at our disposal it was quite impossible, with the limited material available, to collect an exhibit at all representative of the widely varied and extensive mineral wealth of New Zealand, and it was therefore considered advisable to confine the exhibit mainly to minerals and rocks of economic value for the area in which a geological survey had been conducted—namely, the Hokitika Subdivision of North Westland. Our efforts, however, were considerably hampered not only through want of time, but also owing to the difficulty of obtaining specimens from the mountainous hinterland of Westland at a season when all the high country is covered with snow. However, a collection fairly representative of the mineral wealth of the Hokitika area was obtained, and with this were



ALEXANDRA SOUTH, SHOWING MANUHERIKIA RIVER IN THE FOREGROUND.



HYDRAULIC SLUICING, ROSS, WESTLAND.



HYDRAULIC SLUICING, ROSS, WESTLAND.

arranged numerous framed enlarged photographs illustrative of the mining industry, and also of the wonderful scenery of North Westland. In addition to this special district exhibit, the Geological Survey displayed two large maps—one of the North Island and the other of the South Island—indicating the separate localities in which minerals of economic importance are known to occur.

GENERAL OFFICE-WORK.

Correspondence.—The correspondence of the Department has grown considerably during the past year. This is largely due to the interest taken by the public of New Zealand, and of the outside world, in the work of the Geological Survey, as well as to the fact that the field staff has been greatly increased. Numerous specimens of rocks and minerals have been identified by officers of the Department at headquarters, and brief reports have been written in connection with most of them.

Publications.—This year, two bulletins, in addition to the annual report which was published in Parliamentary Paper C.—3, 1906, have been issued by the Geological Survey. No. 1, written by myself with the assistance of Mr. Colin Fraser, bears the title "The Geology of the Hokitika Sheet, North Westland Quadrangle; with which has been included a Small Portion of the Upper Wilberforce Valley in the Waimakariri Quadrangle."

Bulletin No. 2, written by Professor James Park, and based on the results of his geological examinations during the summer months of 1905-6, is entitled "The Geology of the Area covered by the Alexandra Sheet, Central Otago Division."

Maps.—During the year the draughtsmen have compiled the maps accompanying Bulletins Nos. 1 and 2, as well as the two large mineral maps of the North and South Islands, exhibited at the New Zealand International Exhibition.

J. M. BELL,
Director, Geological Survey.

Mr. Warden BURGESS to the UNDER-SECRETARY FOR MINES, Wellington.

SIR,—

Warden's Office, Queenstown, 30th April, 1907.

I have the honour to forward herewith a general report on mining in the several sub-districts under my charge for the year ended 31st December, 1906.

QUEENSTOWN.

Mining in this portion of the district has been confined almost entirely to the alluvial claims on the Shotover River. Only one dredge has been at work—viz., the one at Maori Point on the Shotover River, but operations have only been moderately successful.

11—C. 3.

The Skipper's Sluicing Company has been engaged for the past two seasons sluicing the Londonderry Terrace at Pleasant Creek. Owing to the shortness of water—only about five hours a day—the ground worked, though considerable, is not as much as it otherwise would have been. The water is brought in iron pipes over the terrace. The tail-race in use is over 40 yards long, and is cut out of the solid rock. The returns have been satisfactory. This company has also acquired 20 acres lately held by Mr. R. Johnson as part of his alluvial claim, and has erected a fine new dam. The water to be used is brought in from Skipper's Creek, a distance of seven miles, and will be siphoned across Pleasant Creek from Londonderry Terrace. It is not anticipated that any wash-up will take place until after the winter.

Mr. R. Johnson still continues to work his claim on Pleasant Creek Terrace, although he has recently slightly altered his boundaries. Since then he has cut a fresh race from his dam to the new ground, and has started sluicing operations.

Davis and party are working their claim at Stony Creek. The ground is very deep and stony, and an overburden of 300 ft. in depth has to be cleared away before the auriferous earth is disclosed. The water required for sluicing is obtained from Stony Creek. It is stored in two large dams near the workings and conveyed in pipes for use in the face where necessary. This claim has yielded exceedingly good returns.

Smith Brothers are working a hydraulic claim at Sandhills. Much of their time has been occupied in cutting races and damming the river, so that very little paddocking has been done. Floods having considerably damaged their works, they are now laying pipes under the river-bed, so as to obviate any such damage in future. It is intended to work the bed of the river. The water used is brought from Stony Creek.

Rogers and Johnson are carrying on work on Jenkins's Terrace until such time as the river becomes favourable for working the terrace on the opposite side. A siphon, 1,700 ft. long, of 11 in. piping, carries the water across the river. This water is brought from Bullarat Creek, and is stored in two large dams. The party has 1,000 ft. of piping in readiness to work in the river-bed when the river is low enough to allow them to do so.

Messrs. Harbor and Hamilton are working a claim on the river which is quite unaffected by any floods, and is worked by hydraulic sluicing. The water used is obtained from Stony Creek, being carried over the river by some 2,000 ft. of suspended piping.

Messrs. Lee and party are still engaged in working their claim at the Sandhills under the management of Mr. P. T. Lynch. Operations are being carried on upon the river terrace, which is being mined away at the rate of about an acre per annum. The water is obtained from the Sandhills, and conveyed to the claim through about 1,700 ft. of piping, and is carried across the river in pipes.

Mr. Edgar Sainsbury has recently acquired a claim on the river under Muddy Creek Terrace, and is removing his plant from the old claim on the terrace. The claim taken up is comparatively new country, at any rate for this class of mining. Should Mr. Sainsbury's operations prove successful it will practically open up a large area for occupation as sluicing claims, for there is some six miles of untried ground between his claim and what is known as the Branches higher up the river. The claim will be worked with water from Stockyard Creek, the race carrying about twelve heads.

Mr. Alfred Smith, sen., is sluicing at Brown's Terrace with pressure-pipes and a giant nozzle. Mr. Smith is the inventor of the jet pump now so successfully used in working river-beds. By its means he is profitably treating old ground that was worked in the early days with the methods then employed.

Messrs. Peal and Helmes are working in a bed of the river below Mark's Terrace. Their object is to work the crevices in the river-bed where gold is believed to have been left by the old spoon dredges formerly at work in this locality. Smith's method of elevating is used.

Messrs. Smith and Aspinall still successfully continue to work their claim at Skipper's Point, where they have been carrying on operations for many years.

Messrs. Thompson and Robinson are working their claim near Long Gully. Much expensive work has been done. The claim is worked by Smith's suction pump. There are between 2,000 ft. and 3,000 ft. of piping on the ground. The water-race is cut for nearly all its distance through solid rock. The ground is shallow, but very rough.

Messrs. Ward and Smith are hydraulic sluicing at Long Gully. They have wing-dammed the creek, and are working in the bed. Fair returns have been obtained, but work is subject to interruption whenever there is a flood in the river.

Mr. E. McLeod is working on Kerryman's Beach, and Atley Brothers, Jacobson, McConnell, and L. Lynch are working in Alabama Creek. Mr. I. Davis is working at the Sandhills, sluicing the lower portions of his claim.

Messrs. T. and J. S. Collins hold about 30 acres at Maori Point, a portion being on the Terrace and a portion on the river. The claim is worked by hydraulic suction pumps. Considerable rock-cutting has been done on the claim. The depth of the river ground varies from 10 ft. to 14 ft., and gold is got in crevices on the main bottom. The water-race is two miles and a half long, and contain about 3,500 ft. of iron fluming, the country over which it passes being very rugged.

At the Twelve-mile Creek, on Lake Wakatipu, Lee and party and Reid and party continue to work their respective claims. Seffer and party have recently taken up a claim in the Seven-mile Creek, but so far have not done much more than prospect the ground. These are the only claims at present being worked on Lake Wakatipu.

Quartz.

The Shotover Gold-mining Company are still steadily at work driving their main prospecting tunnel. The claim is under the management of Mr. Bishop, and employs on an average about eight men.

At Skipper's the Mount Aurum Company, referred to in my last report as having acquired the old Achilles Mine and battery, continue to prosecute the operations therein referred to. Under the present management the property is receiving a thorough trial, and if it has in it the elements of success there is little doubt, I think, that these will be developed by the present owners to the utmost.

Scheelite.

This mine, situated at the Bucklerburn Creek, near the head of Lake Wakatipu, and owned by George Reid and party, is being worked. The mine has been opened up, and a battery and concentrating plant erected, and work is progressing. The quality of the ore obtained is good. There is a fair demand for the product of the mine, and the prices obtained leave a payable margin for profit. The mine has been worked under the present ownership since January, 1906. The quartz in the lode is obtained from three levels.

ARROWTOWN AND MACETOWN.

Gold-mining about Arrowtown and Macetown has not varied much during the past year. If anything, more prospecting, particularly for quartz lodes, has been done than for some years previously. This is to be attributed to the fact that one of the quartz-mines in the neighbourhood of Macetown, worked by an English company for many years with varying success, was closed down, and the miners who had been engaged in working there, instead of seeking employment elsewhere, turned their attention to prospecting the many reefs known to exist in the Macetown district. Among others, Mr. R. Balch worked on a reef in Scanlan's Gully from which he got highly payable returns, but the lode cut out and the lead was lost. Messrs. Hamilton, O'Neill, and Mackay also took up a reef in the same gully, and are now working it. They purchased a battery from the Indian Glenrock and Premier Sunrise Company, and crushing operations are being steadily carried on. Messrs. Anderson Brothers and party are also working a reef in the same locality, and quite recently they purchased from the same company a battery situated near the Premier Mine and known as the "Sunrise battery." They have removed it on to a site at the foot of Scanlan's Gully, and the battery is now in course of erection. As the battery will not be completed before winter it is not likely that crushing operations will be started until next spring. Other parties are also engaged prospecting for quartz lodes in this district. It may be mentioned that at Macetown there are many reefs showing on the surface yet to be developed, but the cost of working these is too great for the ordinary miner. From the head of Lake Wakatipu across the mountains to Skipper's, and thence to Macetown, there exists a belt of reefing country on which as yet comparatively little work has been done. In Rogers's Gully, at Macetown, Mr. B. Ritchie is at present prospecting for antimony, indications of a lode having been discovered in the neighbourhood—at least sufficient to warrant prospecting. At the back of Macetown Mr. R. Balch has been hydraulic-ing a terrace, but work is at present suspended. At Eight-mile, Arrow River, Messrs. Reid Brothers are still engaged working a terrace by means of sluicing. This claim has been continuously worked for a number of years. The party owns an extensive pipe-line which provides a plentiful supply of water with good pressure. A new company was formed a short time ago to work the old Arrow Falls Claim on the Arrow River bed, about four miles distant from Arrowtown. The new company is styled "The Arrow River Sluicing Company," of which Mr. J. Ramsay is manager. The company has an inexhaustible water-supply from the Billy Creek, and sufficient hydraulic pressure to meet all requirements. Floods affect the claim at times, but not sufficient to cause any material damage or great inconvenience. Several individual miners are engaged in alluvial mining on the terraces and on the creeks of the Arrow River Gorge, and are meeting with more or less success. At Bracken's Gully, in the neighbourhood of the Crown Terrace, two parties—Stephenson and Dakers, and Soutter Brothers—have been steadily engaged sluicing ground, but with what success is not known. Recently Messrs. Feehy and Naylor Brothers have been working ground on the Crown Terrace Lead, which proved very rich some years ago. They have a good water-supply, and are able to get over a quantity of ground during the season.

The past season has been drier than usual, and the water-supply on several claims consequently more or less limited; but there are few instances, if any, where work had to be suspended through the shortage of water.

A syndicate with a capital of £200 was formed in Arrowtown some months ago with the object of prospecting what is known as the Lucknow Reef, situated on the Crown Terrace. A low-level tunnel was put in a distance of over 100 ft., and the reef sunk on to a depth of 30 ft. Prospecting has been discontinued for the present. At Whitechapel Flat, once the scene of great mining activity, only a little fossicking is being done.

Dredging.

From the gorge where the Electric Company's dredges are at work, near Bannockburn, to the source of the Kawarau River, at Lake Wakatipu, there is only one dredge at work—the sole survivor of a fleet of dredges that some five or six years ago was launched upon this river. This dredge is situated on a claim about fourteen miles from Cromwell and within the Lake County. It was formerly the property of the Meg and Annie Company, but was sold by them a year or two ago to a party of working-men. Since acquiring possession, this party have successfully worked their claim. Recently, how-

ever, operations have been suspended owing to the high state of the river. It is intended shortly to begin again a little lower down the river, the proprietors having lately taken up the claim originally occupied by the Gentle Annie Company.

CARDRONA.

Mining in the Cardrona Valley has not improved during the past year. Much is expected, however, from the operations of the Criffel Lead Company on the Criffel Face, opposite the Cardrona Township. The company has been vigorously prosecuting their work, and have been to considerable expense in preliminary operations in connection with the undertaking—water-races have been made, old ones have been improved and repaired, tail-races have been constructed, and an efficient hydraulic plant placed on the ground. Some difficulty has been experienced owing to the unstable nature of the ground, which has a tendency to slip away as work proceeds, but the management are confident of overcoming this difficulty. There are at present thirteen men employed. The races are three and a half miles in length, and give the right to the use of thirty heads of water, but owing to the shortness of the supply not more than twelve heads are at present available.

The Lone Star dredge is the only one at work in the Cardrona Valley, and has been kept regularly employed.

Little and party are still working their hydraulic-sluicing claim in the old bed of the Cardrona River. They have a fine supply of water, brought on to the claim in iron pipes, and a complete plant for hydraulic sluicing and elevating. Operations have, however, proved far from successful, and work is being carried on in the face of great discouragement.

CROMWELL.

During the year ended the 31st December, 1906, there were granted ten dredging claims, fourteen alluvial claims, and four quartz claims, as compared with twelve dredging claims, nine alluvial claims, and no quartz claims during the previous year. From these figures it would appear that, while dredging is on the decrease, the number of alluvial and quartz claims is more than proportionately increasing. A few large areas were taken up in the hope that the black sand which is found in great quantities in several parts of the district could be profitably worked owing to the presence of tin and other minerals, as well as the gold, but I understand that the reports made upon some samples that were sent Home for analysis were not sufficiently encouraging.

Some very fine specimens of antimony have been got on the Carrick Range, and a special claim and three prospecting-areas have been taken up for the purpose of thoroughly testing this important find.

Great activity has been displayed at Bendigo, a Dunedin syndicate having acquired several rights in the locality, and it is proposed to carry on extensive hydraulic sluicing.

The old quartz claim there has lately been worked for scheelite, which is believed to have been found in payable quantity.

The dredging returns for this period must be looked upon as disappointing. The high state of the river during the winter months has militated against steady and continuous work. This has contributed largely to the comparative smallness of the returns from the electric dredges on the Kawarau River. On the Molyneux the two dredges left—the Hartley and Riley and the New Alpine Consols—have had a fairly successful year. The three dredges that were taken from the Molyneux to the Clutha above Lowburn have had short and unsuccessful careers, and none of them are working at the present time. The Rising Sun dredge and the two Rise and Shine dredges have all been working steadily, and have paid dividends. The Punt and Revival dredges have not had a good year. Comparatively speaking, the most encouraging work for the period has been done by the Clutha River dredge, working on the river close to the borough. The Junction Electric Company had a very disastrous year, having lost one of its dredges which was getting about 50 oz. a week. This company's claim has since been acquired by the Electric Dredging Company. Another of the Junction Electric Company's dredges has been working at the mouth of the Kawarau River, but has not paid expenses. A new company, called the New Cromwell Dredging Company, was formed for the purpose of acquiring the third dredge belonging to the Junction Electric, and of working a claim with it on the Kawarau River, near Bannockburn; but the venture proved unsuccessful.

In the Nevis district miners, both dredging and sluicing, have had a good year. In spite of the dry season experienced elsewhere, there has been no want of water, and the sluicing claims have quite kept up their average. The old Ngapara III dredge, now owned by the Lower Nevis Dredging Company, has had a better season than formerly, and all the other Nevis dredges have had a good season. At Upper Nevis the Crewe Company's dredge has not been as successful as was anticipated, but all the sluicing claims have done very well during the past year. A company called the Ben Nevis Sluicing Company has taken over Mr. McWilliams's mining rights in that locality, and intend to carry on operations on a more extensive scale.

Dredging.

In consequence of the high state of the Molyneux River during the whole of the past year dredging in the gorges has been practically suspended. The stretches of the river mostly affected embrace the claims upon which the Monte Christo at Clyde, and the Moa, Manuherikia, Sailor's Bend, First Chance, Bendigo, and the Fourteen-mile Beach dredges at and below Alexandra are situated. The whole seven dredges only succeeded in obtaining 1,245 oz. during this period, more than half of which quantity was won by the Fourteen-mile Beach. Such disappointing results from these dredges are not altogether the consequence of the unfavourable state of the river, and much less are they so from the absence of gold in the river-bed. Two dredging claims of three miles of the river have recently been applied for, including portions of the gorge upon which smaller dredges have worked with not very satisfactory results.

There are still nine or ten dredges steadily working in the river and on the banks and beaches at Sandy Point with dividend-paying results. This also can be said of the Molyneux Hydraulic and the Alexandra Eureka, a little lower down; the Alexandra Lead and the Golden Beach, on the other hand, have not been so successful.

Some five dredges are in operation in the Manuherikia River and its beaches above Alexandra. Two of these are in the hands of working shareholders, and it is reported that they have met with satisfactory returns. The Olig and the Chatto Creek are owned and worked by registered companies. The former has lately discarded steam and substituted water-power. So far, under the altered conditions, everything is working satisfactorily.

Alluvial Mining.

There is unfortunately very little to be said as to the present condition of this class of mining. Scarcely any work has been done during the year, but good hope is entertained of a fairly large field being opened up in the vicinity of Galloway Station, and the holders of claims there are ready and waiting the completion of the Alexandra Race, lately acquired by the Government. This is the only water which will be available for working these claims. In the meantime most of the claims are under protection.

Mr. Rivers finds it extremely difficult to carry on operations on his claim at Richmond Hill. The source whence he derives his supply of water has fallen away considerably during the last year or two, and this has very materially hindered the proper and regular working of the claim.

Antimony.

The appreciable advance in the price of this metal has encouraged another effort to be made to exploit the lode which was originally discovered on the west bank of the Molyneux River at Alexandra about twenty-five years ago. About eight years ago the mine was again taken up, and this time, under the management of Mr. Robert Blair, more extensive efforts were made. Three shafts were sunk, and a considerable amount of tunnelling was effected, in all of which operations evidence of the extent of the lode was exhibited. About 150 tons of ore of various grades was brought to the surface. The third and present undertaking, controlled by Mr. James McQueen, presents greater possibilities for a successful issue than the two previous efforts. The lode has been traced for a distance of two miles on the surface, and a mineral license of 320 acres has been applied for. A company with a proposed capital of £20,000 is in the course of construction, if not already constructed, and contracts for driving on the lode have been let, altogether showing a *bona fide* intention on the part of the promoters to thoroughly test the value of its property.

Should the prospects already in view continue, it is intended to erect smelting-works on the ground, the conducting of which must necessarily be materially assisted by the close proximity of the railway.

BALD HILL FLAT.

Sluicing here is now confined to three parties—the Last Chance Company, Carroll and party, and Mitchell. The former is only paying expenses, and the latter parties are meeting with little better results. Both quartz claims have been given up; Mr. Gray of the Excelsior having left the district, whilst Mr. Robert Symes, who for many years occupied and worked White's Reef with poor results, is now prospecting with Coal Creek water in the vicinity of what was known as the Exhibition Reef.

ROXBURGH.

Hydraulic Sluicing.

The Roxburgh Amalgamated Company has had a fairly successful year. Eighteen men are continuously employed in the claim and water-race, and, although a full supply of water has not at all times been available, the company succeeded in winning 1,588 oz. of gold, out of which dividends amounting to £2,914 were declared.

The Ladysmith Company, on the adjoining claim, might be said to have had an equally successful year, taking into consideration the small quantity of water at its disposal. Nine men only find employment in this claim; the year's work resulted in obtaining 794 oz. of gold, and dividends amounting to £992 were declared.

Coulter and party, at Commissioner's Flat, working on a smaller scale both in water and plant, are satisfied with their returns.

Manuel Brothers, at Coal Creek, with an inferior supply of water and deep and heavy ground to operate upon, have been practically at a standstill; while Michelle and party, a little lower down the flat, have met with only moderate results for the same reasons.

A considerable amount of prospecting has been carried on at Anderson's Flat by means of boring, under the management of Messrs. Ewing and Stewart, with what results I have not been able to ascertain.

Dredging.

There are fifteen dredges in active operation between Coal Creek and the Island Block. Some of them are working bank claims, and do not incur much lost time, while others, with river claims only, have suffered considerably from the high state of the river.

Ten out of the fifteen whose results are published aggregated returns amounting to 11,095 oz., and seven out of the ten referred to declared dividends totalling £15,594.

The Roxburgh Jubilee Company has not succeeded in acquiring a dredge to take the place of the one which sank about eighteen months ago.

CAMPBELL'S.

A special claim has been taken up at Campbell's Flat for the purposes of hydraulic sluicing, but work cannot commence until the spring sets in.

The Under-Secretary, Mines Department, Wellington.

I have, &c.,

FRED J. BURGESS, Warden.

(f). MINING STATISTICS.

STATEMENT showing the Whole of the QUARTZ-CRUSHING MACHINES and APPLIANCES for treating Auriferous and Argentiferous Ores in the HAURAKI MINING DISTRICT for the Year ended the 31st December, 1906.

[NOTE.—Under heading "Power employed" the letter H indicates hand; O, oil; S, steam; W, water-power; and E, electricity.

Locality where Machine is situated.	Name of Machine.	Name of Owners.	Number of Rock-breakers.	Number of Stamps.	Number of Ore-crushers.	Number of Berdons.	Number of Pans.	Number of Settlers.	Number of Mortars.	Number of Retorts.	Number of Furnaces for Gold-melting, &c.	Number of Furnaces for Assay Purposes.	Number of Plants for Cyanide Process.	Number of Concentrating Plants.	Power employed.
<i>Coromandel County.</i>															
Coromandel ..	Telephone ..	Hauraki Gold-mining Co. ..	15	8	1	1	3	3	1	1	1	1	1	1	S
" ..	Union Beach Tailings Plant ..	Samuel James ..	1	1	1	1	3	1	1	1	1	1	1	1	W
" ..	Public battery ..	School of Mines Board (in trust) ..	5	2	1	1	1	2	1	1	1	1	1	1	O
" ..	Sooty's ..	J. T. Martin ..	9	8	1	1	1	2	1	1	1	1	1	1	W
Tokatea ..	Tokatea ..	Royal Oak of Hauraki Gold-mining Co. ..	15	8	1	1	2	2	1	1	1	1	1	1	W, S
" ..	West Tokatea ..	Tokatea Consolidated ..	3	2	1	1	1	1	1	1	1	1	1	1	S
Waikoromiko ..	Four-in-Hand ..	Four-in-Hand Gold-mining Co. ..	10	2	1	1	1	1	1	1	1	1	1	1	S
Oabbage Bay ..	Vizard's ..	C. Blasch ..	4	1	1	1	1	1	1	1	1	1	1	1	W
Kuaotunu ..	Great Mercury ..	Thompson and others ..	10	1	1	1	1	4	2	1	1	1	1	1	S
" ..	Waitata ..	Waitata Gold-mining Co. ..	10	2	1	1	1	2	1	1	1	1	1	1	S
" ..	Handsworth ..	Louis Woodcock ..	3	1	1	1	1	1	1	1	1	1	1	1	W
" ..	Public Battery ..	" ..	5	2	1	1	1	1	1	1	1	1	1	1	S
Mercury Bay ..	Mahakirau ..	Coromandel County (in trust) ..	3	1	1	1	1	1	1	1	1	1	1	1	O
<i>Thames County.</i>															
Gumtown ..	Kapowai ..	Kapowai Gold-mining Co. ..	8	3	1	1	1	1	1	1	1	1	1	1	S
" ..	Big Beetle ..	Big Beetle Gold-mining Co. ..	1	2	2	1	1	1	1	1	1	1	1	1	W
Tapu ..	Bullion ..	Plumer Bros. ..	15	4	1	1	2	2	1	1	1	1	1	1	W
" ..	Mahara Royal ..	Mahara Royal Gold-mining Co. ..	20	18	1	1	2	2	1	1	1	1	1	1	W
Waiomo ..	Monowai ..	Monowai Gold-mining Co. ..	1	10	1	1	2	1	2	1	1	1	1	1	S, W
Puru ..	Puru ..	" ..	10	2	1	1	1	1	1	1	1	1	1	1	W
Tararu ..	Day Dawn and Norfolk ..	Day Dawn and Norfolk Mines (Limited) ..	30	6	1	1	3	2	1	1	1	1	1	1	S, W
" ..	New Alburnia ..	New Alburnia Gold-mining Co. ..	20	7	1	1	2	1	3	1	1	1	1	1	W
" ..	Eclipse ..	Eclipse Gold-mining Co. ..	10	3	1	1	1	2	1	1	1	1	1	1	W
" ..	Chicago ..	" ..	10	2	1	1	1	1	1	1	1	1	1	1	W
Karaka ..	Claremont ..	George Bryant ..	1	1	1	1	1	1	1	1	1	1	1	1	W
" ..	Junction ..	McGregor and Taylor ..	5	1	1	1	1	1	1	1	1	1	1	1	W
" ..	Arrindell ..	George A. Dugall ..	1	5	3	1	1	1	1	1	1	1	1	1	S
Hape ..	Fortuna ..	H. H. Adams ..	5	2	1	1	1	1	1	1	1	1	1	1	W
" ..	Anchor ..	James Middleton ..	5	2	1	1	1	1	1	1	1	1	1	1	W
Kirikiri ..	Kirikiri ..	Kirikiri Gold-mining Co. ..	5	2	1	1	1	1	1	1	1	1	1	1	S
Puriri ..	Puriri ..	Puriri Gold Estates Gold-mining Co. ..	8	2	1	1	1	1	1	1	1	1	1	1	W
" ..	Hit or Miss ..	J. McInnis ..	6	2	1	1	1	1	1	1	1	1	1	1	S, W
Tairua ..	Tairua Broken Hills ..	Tairua Broken Hills Gold-mining Co. ..	1	20	6	1	1	1	1	1	1	1	1	1	S, W
" ..	Golden Belt ..	Golden Belt Gold-mining Co. ..	1	10	2	1	1	1	1	1	1	1	1	1	W
" ..	Taihoa ..	Taihoa Gold-mining Co. ..	1	10	2	1	1	1	1	1	1	1	1	1	O
" ..	Taniwha ..	Taniwha Gold-mining Co. ..	3	1	1	1	1	1	1	1	1	1	1	1	S
" ..	Coronation ..	Coronation Gold-mining Co. ..	5	1	1	1	1	1	1	1	1	1	1	1	S
Whangamata ..	Auckland ..	Auckland Gold-mining Co. ..	1	10	1	1	1	1	1	1	1	1	1	1	S, W
Ohua ..	Waihua ..	" ..	2	1	1	1	1	1	1	1	1	1	1	1	W
Omahu ..	Omahu ..	Omahu Gold-mining Co. ..	10	2	1	1	1	1	1	1	1	1	1	1	S
" ..	Klondike ..	" ..	5	2	1	1	1	1	1	1	1	1	1	1	W
<i>Thames Borough.</i>															
Thames Borough ..	Kuranui ..	Kuranui Gold-mining Co. ..	20	6	1	1	2	2	1	1	1	1	1	1	W
" ..	Moanatalari ..	H. H. Adams ..	60	21	4	1	2	6	1	1	1	1	1	1	S, W
" ..	Comer's ..	Kuranui-Caledonian Gold-mining Co. ..	20	5	1	1	2	2	1	1	1	1	1	1	W
" ..	Adam's ..	H. H. Adams ..	1	2	9	1	2	8	2	1	1	1	1	1	W
" ..	May Queen ..	May Queen Gold-mining Co. ..	33	8	3	1	2	8	2	1	1	1	1	1	W
" ..	Waiotahi ..	Waiotahi Gold-mining Co. ..	21	5	2	2	1	1	1	1	1	1	1	1	S
" ..	New Battery ..	" ..	2	40	5	1	1	1	1	1	1	1	1	1	W
" ..	Cambris ..	" ..	1	2	7	1	1	1	1	1	1	1	1	1	W
" ..	Thames ..	Thames Gold-mining Co. ..	21	16	1	1	2	2	1	1	1	1	1	1	W
" ..	School of Mines ..	School of Mines Board (in trust) ..	1	2	1	1	3	3	1	4	1	1	1	1	W
" ..	May Queen Extended ..	May Queen Extended Gold-mining Co. ..	23	14	1	1	2	4	1	1	1	1	1	1	W

STATEMENT showing the Whole of the QUARTZ-CRUSHING MACHINES and APPLIANCES for treating Auriferous and Argentiferous Ores in the HAURAKI MINING DISTRICT for the Year ended the 31st December, 1906—continued.

Locality where Machine is situated.	Name of Machine.	Name of Owners.	Number of Rock-breakers.	Number of Stamps.	Number of Ore-crushers.	Number of Berdons.	Number of Pans.	Number of Settlers.	Number of Mortars.	Number of Retorts.	Number of Furnaces for Gold-melting, &c.	Number of Furnaces for Assay Purposes.	Number of Plants for Cyanide Process.	Number of Concentrating Plants.	Power employed.
<i>Thames Borough—old</i>															
Thames Borough ..	Bank of New Zealand	Bank of New Zealand ..	..	..	..	..	..	..	2	2	1	1	..	..	H
..	Bank of New South Wales	Bank of New South Wales	..	..	..	..	..	..	2	2	1	1	..	..	H
<i>Ohinemuri County.</i>															
Paeroa ..	Bank of New Zealand	Bank of New Zealand ..	1	..	..	..	..	..	2	1	1	1	..	..	H
Karangahake ..	Crown ..	New Zealand Crown Mines (Limited)	2	60	..	4	..	..	2	2	1	1	1	..	S, W
..	Woodstock	Talisman Consolidated Gold-mining Co. ..	2	40	..	2	..	..	2	2	1	1	1	1	S, W
..	Talisman	Talisman Consolidated Gold-mining Co. ..	4	60	..	5	..	..	3	3	1	1	1	1	S, W
Komata ..	Komata Reefs	Komata Reefs Gold-mining Co.	2	20	..	4	..	..	2	2	1	1	1	1	S, W
Waitekauri ..	Waitekauri	Waitekauri Gold-mining Co.	..	10	..	2	..	..	1	1	..	..	..	..	W
..	Grace Darling	Ditto ..	1	10	..	3	..	..	1	2	1	1	1	..	S, W
..	Portsea ..	Challis and party ..	..	5	..	2	..	..	..	..	..	..	..	..	W
..	Jubilee ..	..	..	10	..	5	2	1	1	2	1	1	1	..	S
..	Maoriland	Maoriland Gold-mining Co.	..	9	..	..	..	..	..	..	..	..	..	..	W
Maratoto ..	Maratoto	Maratoto Gold-mining Co.	..	10	..	2	..	..	1	2	1	1	..	..	S
..	Hikutata	Hikutata Gold Syndicate	1	5	..	2	..	..	1	2	1	1	..	..	S
<i>Waihi Borough.</i>															
Waihi ..	Waihi Gold Reefs	Waihi Gold Reefs Syndicate	1	5	..	..	..	..	1	1	..	..	..	..	O
..	Grand Junction	Waihi Grand Junction Gold mining Co.	4	40	2	1	1	4	2	1	5	4	1	1	E
..	Waihi ..	Waihi Gold-mining Co. ..	2	90	..	5	..	..	3	6	1	1	1	1	S, W
..	Union-Waihi	..	2	40	..	2	..	..	2	2	1	1	1	1	S, W
Waikino ..	Waikino	..	4	200	..	12	..	..	3	4	1	1	1	1	S, W
Piako ..	Waiorongomai	E. H. Hardy ..	1	10	..	4	1	..	2	2	1	1	1	1	W
Great Barrier Island	Barrier Reefs	Henry Brett ..	1	20	..	3	..	2	3	2	1	1	1	1	S
..	Sunbeam	..	..	5	..	..	..	..	..	..	..	..	1	..	..
Auckland ..	Bank of New Zealand	Bank of New Zealand ..	..	..	..	1	1	2	6	4	2	..	..	..	W
			38	1,221	8	263	32	22	104	122	62	33	22	12	

STATEMENT showing QUARTZ-CRUSHING MACHINES and APPLIANCES for treating Auriferous Ores in the MARLBOROUGH, NELSON, and WESTLAND MINING DISTRICTS for the Year ended the 31st December, 1906.

[NOTE.—Under heading "Power employed" the letter H indicates hand; O, oil; S, steam; and W, water-power.]

Locality where Machine is situated.	Name of Machine.	Name of Owner.	Number of Rock-breakers.	Number of Stamps.	Number of Ore-crushers.	Number of Berrans.	Number of Pans.	Number of Settlers.	Number of Mortars.	Number of Retorts.	Number of Furnaces for Gold-melting or retorting Assay Purposes.	Number of Furnaces for Cyanide Process.	Number of Plants for Chlorination.	Number of Concentrating Plants.	Power employed.
<i>Marlborough County.</i>															
Top Valley ..	Wellington ..	T. W. Young and P. K. Watty	.. 10 ..	1 ..	..	..	1 ..	..	..	..	..	..	..	..	S
" ..	Jubilee ..	Wairau Valley Gold-mining Co. (Limited)	.. 10 ..	..	..	..	..	..	..	..	..	..	..	..	W
<i>Collingwood County.</i>															
Taitapu ..	Golden Ridge ..	Taitapu Gold Estates (Limited)	2 20 ..	4 ..	1	1	2	1	1	..	..	..	..	..	W
" ..	Golden Blocks ..	Golden Blocks (Taitapu) (Limited)	.. 8 ..	..	1	1	2	..	..	..	..	..	..	..	S
<i>Buller County.</i>															
Mokihinui ..	Red Queen ..	A. W. Mills ..	.. 2 ..	..	..	..	..	..	..	..	..	..	..	..	W
Waimangaroa ..	Britannia ..	Britannia Gold-mining Co. (Limited)	.. 4 ..	..	..	..	..	..	..	..	..	1	..	..	W
" ..	Stony Creek ..	Stony Creek Gold-mining Co. (Limited)	.. 10 ..	2 ..	..	2	2	..	..	..	..	..	..	..	W
Lyell ..	Alpine Extended ..	Alpine Extended Gold-mining Co. (Limited)	.. 20 ..	4 ..	1	1	2	..	..	1	..	..	..	..	W
<i>Inangahua County.</i>															
Bourk's Creek ..	Gardiner's ..	W. P. Gardiner and Sons ..	.. ..	12 ..	..	1	2	..	..	..	..	..	..	..	W
Victoria Range ..	Kirwan's Reward ..	Kirwan's Reward Gold-mining Co. (Limited)	.. 15 ..	..	..	..	1	1	..	..	..	..	..	..	W
Capleston ..	Welcome ..	Consolidated Goldfields of New Zealand (Limited)	.. 10 ..	..	..	..	2	1	..	1	..	..	..	..	S
Reefton ..	Golden Fleece ..	Ditto ..	1 20 ..	1 ..	..	2	1	..	1	..	1	..	1	..	S
" ..	Wealth of Nations ..	" ..	.. 20 ..	1 ..	..	2	2	1	..	1	..	1	..	..	W
" ..	Keep-it-Dark ..	Keep-it-Dark Quarts-mining Co. (Limited)	.. 20 ..	4 ..	1	1	2	1	1	1	1	..	1	..	W
" ..	Progress Mines ..	Progress Mines of New Zealand (Limited)	3 65 ..	1 ..	..	2	2	1	1	1	1	1	1	1	W
" ..	New Scotia ..	New Scotia Gold-mining Co. (Limited)	.. 10 ..	1 ..	..	1	1	..	..	1	..	..	..	..	S
" ..	Golden Lead ..	Golden Lead Gold mining Co. (Limited)	.. 10 ..	..	..	1	..	..	..	..	..	..	..	..	W
" ..	Last Chance ..	Alex. Fleming and party ..	.. 5 ..	..	..	1	1	..	..	..	..	..	..	..	S
" ..	Big River ..	Big River Gold-mining Co. (Limited)	.. 10 ..	4 ..	..	2	2	1	1	1	1	..	..	..	W
" ..	King George ..	St. George Gold-mining Co. (Limited)	.. 5 ..	..	..	1	1	..	..	..	..	..	..	..	W
" ..	Inglewood ..	P. N. Kingswell ..	.. 10 ..	..	..	..	..	..	..	..	..	1	..	..	S
<i>Grey County.</i>															
Paparua Ranges ..	Garden Gully ..	Garden Gully Gold-mining Co. (Limited)	.. 10 ..	1 ..	..	1	1	..	..	..	..	..	..	..	W
Ten-mile Creek ..	Taffy ..	T. W. Ponsonby ..	.. 5 ..	1 ..	..	1	..	..	..	..	..	..	..	..	W
			6399 ..	87 ..	4	18	29	8	4	10	1	8			

QUARTZ-CRUSHING MACHINES and APPLIANCES for treating Auriferous Ores in the SOUTHERN MINING DISTRICT for the Year ended the 31st December, 1906.

Locality where Machine is situated.	Name of Machine.	Name of Owner.	Number of Rock-breakers.	Number of Stamps.	Number of Ore-crushers.	Number of Berdams.	Number of Pans.	Number of Settlers.	Number of Mortars.	Number of Retorts.	Number of Furnaces for Gold smelting.	Number of Furnaces for Assay Purposes.	Number of Plans for Cyanide Process.	Number of Concentrating Plants.	Power employed.
Tuapeka County.															
Waipori	Otago Pioneer Quarts	Otago Pioneer Quarts (Waipori) Gold-mining Co.	1	10	..	..	..	..	1	1	1	1	..	1	S
.. ..	Victoria ..	R. Cotton ..	..	5	..	..	..	..	..	..	..	..	..	..	W
.. ..	Bella ..	Bella Gold-mining Syndicate	..	5	..	..	..	..	..	..	..	..	..	..	W
Bruce County.															
Waitabuna ..	Burnt Creek	Table Hill Quarts-mining Co.	..	10	..	..	..	..	..	..	..	..	..	..	W
.. ..	Canada ..	Canada Reef Gold-mining Co.	..	10	..	..	..	..	..	..	..	..	..	..	W
.. ..	Last Chance	Park and Co. ..	..	5	..	..	..	..	..	..	..	..	..	..	W
Lake County.															
Queenstown ..	Invincible	Invincible Gold-mining Co.	..	10	..	7	..	..	1	..	..	..	1	1	W
Maestown ..	Premier ..	Premier Sunrise (N.Z.) Gold-mining Co.	1	20	..	2	..	1	1	1	1	1	1	..	W
.. ..	Tipperary	D. McKay and party ..	..	10	..	1	..	1	..	1	1	1	1	..	W
Skipper's ..	Shotover	Shotover Quarts-mining Co.	..	10	..	..	..	..	..	..	..	..	..	..	W
.. ..	Reefton United	Reefton United Gold-mining Co.	..	2	..	..	..	..	..	..	..	..	..	..	O
Bullendale ..	Achilles ..	Mount Aurum Gold-mining Co.	1	80	..	..	..	..	1	1	1	1	..	..	W
Fiord County.															
Te Oneroa ..	New Star	New Star Gold-mining Co.	..	10	..	14	..	..	..	..	..	..	..	..	S, W
.. ..	Alpha Dawn	Alpha Dawn Gold-mining Co.	..	10	..	2	..	..	..	..	..	..	..	..	W
.. ..	Golden Site	Golden Site Gold-mining Co.	..	10	..	4	..	..	..	..	..	..	..	..	W
Vincent County.															
Bannockburn ..	Day Dawn	Lawrence Bros. ..	..	4	..	1	..	..	1	..	..	..	..	..	W
.. ..	Carrick ..	James Lawrence ..	..	10	..	..	..	..	1	..	..	..	..	..	W
.. ..	Star of the East	Lawrence Bros. ..	..	10	..	..	..	..	..	..	..	..	..	..	W
.. ..	Go-bye ..	J. B. Holliday ..	..	10	..	..	..	..	..	..	..	..	..	..	W
.. ..	Macabe ..	Macabe and Son ..	..	2	..	..	..	..	..	..	..	..	..	..	W
Bendigo ..	Bendigo	Cromwell Proprietary Gold mining Co.	..	20	..	4	..	..	1	1	1	1	..	..	S, W
.. ..	..	Bendigo Tailings Syndicate	..	..	..	..	..	..	..	..	1	1	..	..	..
.. ..	Alta ..	Alta Gold-mining Co. ..	..	4	..	..	..	..	..	..	..	..	..	..	O
Bald Hill Flat ..	Excelvior	Gray and Holden ..	..	8	..	..	..	..	1	1	1	..	..	..	W
.. ..	White's Reef	R. T. Symes ..	..	5	..	1	..	..	1	1	1	..	..	..	W
.. ..	Nicholson's Reef	.. ..	..	10	..	..	..	..	..	..	..	..	..	..	W
Alexandra ..	Conroy's Gully	J. N. Robertson and party	..	5	..	..	..	..	..	..	..	..	..	..	W
Maniototo County.															
Hyde ..	Highlay Gold and Scheelite Mining Co.	Highlay Gold and Scheelite Mining Co.	..	12	..	..	..	..	..	..	..	..	..	1	W
.. ..	N.Z. Gold and Tungsten	W. and G. Donaldson ..	2	..	1	..	..	..	..	..	..	..	..	1	O, S
Serpentine ..	..	John Cogan ..	..	10	..	..	..	..	..	..	..	..	..	..	W
Rough Ridge ..	Great Eastern	F. H. Perry ..	..	5	..	..	1	..	..	1	1	..	..	..	W
Waiheke County.															
Macrae's ..	Maritana	C. McGill ..	..	6	..	..	..	..	..	..	..	..	..	1	O, W
.. ..	Ounce ..	Ounce Gold-mining Co. ..	..	8	..	..	..	..	..	..	..	..	..	..	W
.. ..	Bonanza	L. O. Beal, jun. ..	1	5	1	..	1	..	1	1	1	..	..	..	W
.. ..	Unit-d ..	Gilmour and party ..	..	5	..	1	..	..	1	1	1	..	..	..	S
.. ..	Golden Point	W. and G. Donaldson ..	1	10	1	1	2	..	1	1	1	..	1	2	S, W
Stoneburn ..	Golden Bar	Golden Bar Gold-mining Co.	..	10	..	..	..	..	1	1	1	..	1	..	S
.. ..	Gillivern ..	A. G. Davies ..	..	5	..	..	..	..	..	1	..	..	..	..	S, W
Tairāri County.															
Hindon ..	Parker's ..	A. Parker ..	..	4	..	..	..	..	..	..	..	..	..	..	O
Barewood ..	Barewood	Barewood Gold-mining Co.	1	10	..	..	..	..	1	1	..	1	2	1	O
Matarae ..	Matarae	Matarae Gold-mining Co.	..	10	..	..	..	..	..	..	..	..	..	..	W
Dunedin City ..	School of Mines	Otago University	1	8	..	1	..	..	1	..	..	..	1	..	Gas
			9	848	3	89	4	2	15	14	12	8	7	8	

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the HAURAKI MINING DISTRICT for the Year ended the 31st December, 1906.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
GREAT BARRIER ISLAND.					
Barrier Reefs	16	Tons cwt. qr. lb.	Oz. dwt.	Oz. dwt.	£ s. d.
Sunbeam	7	1,451 0 0 0	704 9	2,828 10	4,444 13 9
		225 0 0 0	20 15	523 5	887 12 2
	23	1,676 0 0 0	725 4	2,850 15	4,812 5 11
COROMANDEL COUNTY.					
Tokatea—					
Royal Oak	81	43 18 0 15	1,217 0	..	3,223 2 3
Big Reef	2	3 10 0 26	17 7	..	43 7 6
New Tokatea	10	10 0 0 0	14 6	..	40 0 6
	43	57 8 1 13	1,248 13	..	3,306 10 3
Waikoremiro—					
Four-in-Hand	6	58 0 0 0	126 18	..	368 10 3
Kapanga—					
Kapanga	12	100 0 0 17	69 10	..	166 16 0
Buffalo	1	0 2 0 0	10 5	..	24 12 0
	13	100 2 0 17	79 15	..	191 8 0
Hauraki Block—					
Old Hauraki	8	19 0 0 0	121 13	..	334 10 9
Golden Pah	8	4 10 0 0	103 2	..	308 11 0
Hauraki Freehold	4	9 0 0 0	10 19	..	29 9 6
	15	32 10 0 0	235 14	..	672 11 3
Kuaotunu—					
Waitaia	12	550 0 0 0	487 10	351 9	2,417 6 3
Handsworth	2	65 0 0 0	29 13	16 6	118 12 3
Otama	2	38 0 0 0	27 5	..	63 16 9
	16	653 0 0 0	544 8	367 15	2,599 15 3
Sundries	7	272 2 2 26	135 14	..	267 16 8
Totals	100	1,173 3 1 0	2,370 2	367 15	8,406 11 3
THAMES COUNTY AND BOROUGH.					
Tapu—					
Mahara-Royal	4	225 0 0 0	117 19	..	288 2 1
Tararu—					
Tararu Creek	4	182 0 0 20	53 14	22 11	170 14 8
Eclipse	2	2 0 0 0	1 3	..	3 2 1
	6	184 0 0 20	54 17	22 11	173 16 9
Moanataiari—					
Alburnia	25	134 10 0 0	350 0	..	899 3 5
Kurunui-Caledonian	16	37 0 0 0	139 12	..	401 7 0
Moanataiari	12	43 10 0 0	86 3	..	233 18 4
Moanataiari Extended	4	9 0 0 0	1 12	..	4 10 11
	57	224 0 0 0	577 7	..	1,538 19 8
Waioatahi—					
Waioatahi	155	18,002 0 1 0	81,607 1	1,032 19	223,678 4 3
Thames	14	230 0 0 0	69 9	..	203 12 0
Golden Drop	1	3 0 0 0	7 0	..	18 11 0
Ballarat	1	7 0 0 0	10 7	..	29 3 9
West Coast	1	10 0 0 0	8 12	..	21 10 0
	172	18,252 0 11 0	81,702 9	1,032 19	223,951 1 0
Kuranui—					
Kuranui	6	140 0 2 4	32 16	..	87 3 9
Grahamstown—					
Victoria	13	175 0 0 0	252 12	..	706 6 8
New Saxon	9	295 11 1 20	406 12	..	1,185 9 0
	22	470 11 1 20	659 4	..	1,891 15 8
Waioaraka—					
New May Queen	39	3,333 9 6	3,769 7	..	10,715 10 2
Karaka—					
Claremont	1	0 3 0 14	367 9	..	987 2 0
Arrindell	4	13 10 0 0	12 10	..	36 10 6
Southern Queen	6	47 0 0 0	118 14	..	325 12 3
Highlander	1	0 0 2 12	22 14	..	54 9 7
	12	60 13 2 26	521 7	..	1,403 14 4

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the HAURAKI MINING DISTRICT for the Year ended the 31st December, 1906—continued.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	

THAMES COUNTY AND BOROUGH—continued.					
Hape Creek—		Tons cwt. qr. lb.	Oz. dwt.	Oz. dwt.	£ s. d.
Lord Nelson	2	80 0 0 0	76 17	..	212 11 8
Daisy	2	0 2 1 10	182 12	..	318 4 8
Reliance	2	1 0 0 0	11 5	..	25 11 10
Summer Hill	2	0 1 1 11	89 7	..	213 4 8
Weymouth	2	0 0 1 21	32 12	..	76 16 8
New Dart	7	8 0 0 0	14 15	..	41 6 0
	17	84 4 0 14	357 8	..	887 15 1
Gumtown—					
Kapowai	12	700 0 0 0	296 17	184 7	1,125 5 8
Tairua—					
Tairua Broken Hills	40	2,571 0 0 0	2,650 0	993 1	7,608 4 2
Golden Belt	24	2,466 0 0 0	..	2,772 9	5,590 9 6
Tairua Triumph	2	1 0 0 0	25 10	..	70 15 8
	66	5,038 0 0 0	2,675 10	3,765 10	13,264 8 11
Puriri and Omahu—					
Miners' Right	2	23 0 0 0	64 14	..	174 8 8
Omahu Reefs	6	758 0 0 0	142 6	423 0	442 8 8
	8	781 0 0 0	207 0	423 0	616 17 4
Whangamata—					
Auckland	6	1,545 0 0 0	849 17	2,580 8	5,230 7 4
Sundries	20	1,472 1 2 10	844 17	16 16	1,616 17 4
Judd's Tailing-plant	2	1,500 0 0 0	160 4	..	400 10 0
Totals	454	30,982 19 1 6	92,826 19	8,025 6	263,191 14 8
WAIHI BOROUGH.					
Waihi	1,465	328,866 0 0 0	100,225 0	1,232,718 0	781,553 6 7
Grand Junction	238	8,144 0 0 0	1,448 18	12,960 14	18,794 11 9
Totals	1,703	337,010 0 0 0	101,673 18	1,245,678 14	795,347 18 4
TAURANGA COUNTY.					
Waitekohe—					
Syndicate	2	12 0 0 0	4 15	..	13 14 2
OHINEMURI COUNTY.					
Waitekauri	2	100 0 0 0	57 4	108 6	197 11 8
Scotia	2	14 1 0 0	123 18	..	272 13 6
Macriland	17	325 0 0 0	266 6	..	352 15 8
Portsea	1	2 0 0 0	6 12	..	12 14 1
May Bell	2	10 0 0 0	9 18	5 10	28 14 1
	24	451 1 0 0	468 18	108 16	893 19 8
Karangahake—					
Talisman	275	49,578 0 0 0	167,026 18	132,567 10	152,011 3 7
New Zealand Crown	143	22,080 0 0 0	..	20,891 4	40,735 4 8
	417	71,658 0 0 0	167,026 18	153,458 14	192,746 8 3
Komata—					
Komata Reefs	160	20,490 0 0 0	6,348 19	43,592 8	45,448 9 8
Totals	601	92,594 1 0 0	173,844 15	197,159 18	239,088 17 7
PIAKO COUNTY.					
Waiorongomai—					
Hardy's Mines (Limited)	6	789 0 0 0	875 0	..	1,859 7 6
SUMMARY.					
Great Barrier	23	1,676 0 0 0	735 4	2,850 15	4,812 5 11
Coromandel County	100	1,173 8 1 0	2,370 2	367 15	8,406 11 8
Thames County and Borough	454	80,982 19 1 6	92,826 19	8,025 6	263,191 14 8
Waihi Borough	1,703	337,010 0 0 0	101,673 18	1,245,678 14	795,347 18 4
Ohinemuri County	601	92,594 1 0 0	173,844 15	197,159 18	239,088 17 7
Tauranga County	2	12 0 0 0	4 15	..	13 14 2
Piako County	6	789 0 0 0	875 0	..	1,859 7 6
1906	2,889	464,237 3 2 6	372,320 13	1,454,082 8	1,312,720 9 10
1905	2,408	408,197 7 1 16	235,188 13	1,342,181 8	1,023,027 6 0
Increase	481	56,039 16 0 18	137,132 0	111,901 5	289,693 3 10

During the year 1906 150 men were employed on unproductive works.

STATEMENT showing QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the MARLBOROUGH, NELSON, AND WESTLAND MINING DISTRICTS for the Year ended 31st December, 1906.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed. Tons.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
Marlborough— Jubilee	6	305	Oz. dwt. gr. 114 11 0	Oz. dwt. gr. ..	£ s. d. 429 11 3
Collingwood— Golden Blocks	30	1,696	1,435 19 0	..	5,678 1 5
Westport— Red Queen	3	97	149 8 0	..	585 5 10
Britannia	18	1,004	584 0 0	414 17 0	8,306 14 1
	16	1,101	683 8 0	414 17 0	3,890 19 11
Boatman's— Welcome	6	118	301 4 10	..	1,118 19 6
Buller United	3	50	55 2 12	..	217 10 0
Kirwan's Reward	18	2,354	522 4 0	..	2,019 7 3
	27	2,522	878 10 22	..	3,350 16 9
Reefton— Golden Fleece	106	6,725	2,623 10 0	517 2 0	12,080 5 4
Wealth of Nations	76	12,676	4,160 12 0	1,637 13 12	22,962 4 6
Keep-it-Dark	50	4,825	8,281 14 18	1,543 12 12	18,886 19 11
Progress	330	59,100	18,073 19 0	5,403 8 0	91,200 10 6
Big River	28	2,037	1,940 8 12	..	7,904 11 2
Inglewood-Victoria	16	645	530 6 0	393 18 0	3,421 17 9
	606	86,008	30,610 10 6	9,500 14 0	156,456 9 2
Greymouth— Taffy	2	100	30 6 6	..	123 1 5
SUMMARY.					
Marlborough	6	305	114 11 0	..	429 11 3
Collingwood	30	1,696	1,435 19 0	..	5,678 1 5
Westport	16	1,101	683 8 0	414 17 0	3,890 19 11
Boatman's	27	2,522	878 10 22	..	3,350 16 9
Reefton	606	86,008	30,610 10 6	9,500 14 0	156,456 9 2
Greymouth	2	100	30 6 6	..	123 1 5
	687	91,732	33,753 5 10	9,915 11 0	169,928 19 11

Number of men employed on development-work, erection of batteries, &c., in the whole district from which no gold has been obtained is forty-nine.

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the SOUTHERN MINING DISTRICT for the Year ended the 31st December, 1906.

Locality and Name of Mine.	Average Number of Men employed.	Quartz crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
LAKE COUNTY.					
Macetown— D. McKay and party	4	Tons. 525	Oz. dwt. 195 0	Oz. dwt. ..	£ s. d. 757 5 7
Skippers— Shotover	6	120	15 0	6 10	82 15 0
VINCENT COUNTY.					
Bannockburn— Star of the East	1	10	6 0	..	23 2 0
Alexandra— Conroy's Gully	1	60	32 9	..	124 8 1
Bald Hill Flat— Excelsior	1	..	3 6	..	12 3 0
White's Reef	2	60	67 0	..	259 17 0
Totals	3	60	70 6	..	272 0 0
MANIOTOTO COUNTY.					
Hyde— Highlay Gold and Scheelite	2	50	11 3	.. ..	42 0 0
WAIHEMO COUNTY.					
Macrae's— Golden Point	30	4,350	1,252 16	..	4,878 1 6
Ounoe	2	50	6 0	..	23 2 0
Maritana	3	393	69 9	..	267 10 7
Totals	35	4,793	1,328 5	..	5,167 14 1

STATEMENT showing the QUANTITY of QUARTZ CRUSHED and GOLD OBTAINED in the SOUTHERN MINING DISTRICT for the Year ended 31st December, 1906—continued.

Locality and Name of Mine.	Average Number of Men employed.	Quartz Crushed.	Gold obtained.		Estimated Value.
			Amalgamation.	Cyanide.	
WAIHEMO COUNTY—continued.					
Stoneburn—		Tons.	Oz. dwt.	Oz. dwt.	£ s. d.
Golden Bar	6	232	141 1	..	543 0 0
Stoneburn Cyanide	2	670	..	55 0	174 19 7
Totals	8	902	141 1	55 0	717 19 7
TAIERI COUNTY.					
Barewood—					
Barewood	21	2,451	974 1	..	3,786 9 8
Harrison and Ewart's	2	23	4 8	..	17 6 0
Totals	23	2,474	978 9	..	3,803 15 8
BRUCE COUNTY.					
Canada Reefs—					
Last Chance	7	883	127 8	..	445 18 0
SUMMARY.					
Lake County	10	645	210 0	6 10	840 0 7
Vincent County	5	190	108 15	..	419 10 1
Maniototo County	2	50	11 8	..	42 0 0
Waiheмо County	43	5,695	1,469 6	55 0	5,886 13 8
Taieri County	23	2,474	978 9	..	3,803 15 8
Bruce County	7	883	127 8	..	445 18 0
Totals	90	9,877	2,905 1	61 10	11,437 17 7

About forty men were employed in unproductive works during the year.

STATEMENT of VALUE of GOLD WON from QUARTZ CRUSHED for ALL DISTRICTS for the Years ended the 31st December, 1905 and 1906.

Mining District.	Year ended the 31st December, 1905.	Year ended the 31st December, 1906.
Hauraki	£ 1,023,027	£ 1,312,720
Marlborough, Nelson, and West Coast	196,368	169,929
Otago and Southland... .. .	17,058	11,438
Totals	1,236,453	1,494,087

GROSS TOTALS and VALUE of GOLD PURCHASED by BANKS for Year ended the 31st December, 1906.

Bank.	Gold purchased.	Value.
Hauraki Mining District.		
Bank of New Zealand	Oz. dwt. gr. 114,277 0 0	£ s. d. 283,084 0 4
Bank of New South Wales	8,762 18 12	17,735 14 1
Totals	123,039 18 12	300,783 14 5
Marlborough, Nelson, and Westland Mining Districts.		
Bank of New Zealand	23,740 8 5	92,588 2 0
National Bank of New Zealand	25,844 10 15	97,751 1 3
Bank of New South Wales	12,010 5 12	47,519 14 3
Union Bank of Australasia	3,537 0 0	14,100 0 0
Totals	64,632 4 8	251,958 17 6
Otago and Southland Districts.		
Bank of New Zealand	98,043 14 11	339,075 3 11
Bank of New South Wales	30,928 18 6	132,244 18 9
National Bank of New Zealand	8,416 19 7	32,771 13 5
Bank of Australasia	6,982 1 9	27,928 0 0
Union Bank of Australasia	12,062 9 0	47,422 12 3
Private buyers	3,585 7 23	13,869 8 6
Totals	160,019 12 4	593,311 16 10
Grand totals	347,691 15 0	1,146,054 8 9

STATEMENT showing the NET EXPENDITURE out of PUBLIC WORKS FUND on ROADS on GOLDFIELDS during Year ended the 31st March, 1907.

ROADS ON GOLDFIELDS.

Vote No. 107.—Item No. 1. Assistance towards the construction and repair of roads, tramways, and tracks in mining and mineral districts, prospecting and minor works for the development of mineral resources, and for the extraction of metals from the ores	£	s.	d.
4,699 13 2			
Item No. 2. Roads to open up mineral lands			
3. Compensation for injuries to employees while in discharge of their duties, medical and other attendance during illness, and contingent expenses in connection with same	19	2	6

AUCKLAND.

4. Road to mines, Great Barrier Island	100	0	0
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Coromandel County.

7. Tairua to Whenuakite	100	0	0
8. Coromandel to Kuaotunu, <i>via</i> Matarangi	244	0	0
9. Tiki to Kaimarama	90	0	0
10. Tiki to Manaia	100	0	0
11. Manaia-Waikawau	164	0	0
13. Kuaotunu—Mercury Bay	100	0	0
14. Whitianga-Gumtown	58	5	0
15. Bridge, Mercury Bay Road	150	0	0
16. Kikowhakarere—Cabbage Bay	250	0	0
17. Wharf Road extension	165	0	0
18. Whitianga-Kaimarama	75	0	0
19. Opitonui Road	139	0	0
20. Gumtown Road	140	0	0
21. Waitaia Mine to battery	75	2	9
22. Kennedy Bay—Matamataharakeke	35	0	0
23. Ward's Road—Cape Colville	50	0	0
24. Kauris to Mahakirau	350	0	0
27. Mercury Bay—Tairua	50	0	0
29. Bridge at break in Big Bay Road	100	0	0
30. Tokatea—Kennedy Bay	50	0	0
34. Success Mine Road (repairs)	50	0	0

Thames County.

36. Thames-Waikawau	77	10	0
37. Thames-Hikutaia	14	14	8
39. Hikutaia-Whangamata-Wires Track	87	1	0
40. Omahu-Whangamata	29	5	0
42. Puriri-Neavesville	199	15	0
43. Neavesville—Upper Landing	107	0	0
44. Upper Landing—Tairua	72	10	0
50. Kaueranga Valley Road (protection)	74	14	0
51. Hape Creek Road	20	0	0
52. Gumtown—Big Beetle	250	0	0
53. Tapu-Gumtown	125	10	0
54. Moanataiari Road	46	9	4
55. Maratoto Road	45	13	2
56. Tararu Creek Road	50	0	0
58. Champion Mine Road	250	0	0

Thames Borough.

62. Moanataiari Aqueduct (repairs)	110	0	0
63. Karaka Creek (clearing)	100	0	0

Ohinemuri County.

64. Hikutaia-Waihi	131	5	6
66. Paeroa—Te Aroha	132	10	0
67. Paeroa-Waitoa	50	0	0
68. Seddon-Waikino	87	6	0
69. Netherton Roads	100	0	0
71. Waitawheta Road deviation	106	0	0
73. Hikutaia-Maratoto	50	10	0
75. Waitekauri-Jubilee	100	0	0
76. Waitawheta-Waihi	75	0	0
77. Paeroa—Te Aroha Bridge	500	0	0
80. Rahu Road	100	0	0
81. Cadman Road	96	0	0
84. Jubilee Low-level Road	100	0	0

NELSON.

Collingwood County.

	£	s.	d.
92. Kaituna Bridge	588	1	0
93. Ferntown-Pakawau	51	6	6
94. Takaka - Collingwood Inland Road	12	2	10
95. Pakawau-Puponga	300	0	0
98. Repairs, Mangarakau Bridge and approaches	100	0	0
99. Pakawau-Mangarakau	200	0	0

Takaka County.

100. Takaka Hill Road	150	0	0
101. Anatoki Track	100	0	0
102. Vant's-Bubu	51	15	6
103. Long Plain Road	100	0	0
104. Bubu Bridge	266	3	0
106. Takaka - Collingwood Inland Road	48	7	9
107. Long Plain Bridge and approaches	200	0	0
108. Pack-track, Upper Anatoki	450	0	0

Waimea County.

112. Motueka River (protective-works)	80	5	8
114. Thorpe-Baton	44	13	8
117. Motueka River Bridge	780	18	11
118. Graham River Bridge	100	0	0
119. Aniseed Valley Road (repairs)	100	0	0

Buller County.

123. Millerton Road (widening)	300	0	0
124. Wilson's Lead Road	50	0	0
125. Granity Creek, southwards	250	0	0
126. Westport-Mokihinui	100	0	0
127. Karamea Mud-flat	150	0	0
131. Brighton - Grey County Boundary	250	0	0
132. Channel Flat-Mackley's	100	0	0
133. Loop-line Road	150	0	0
134. Lyell - Cedar Creek	100	0	0
135. Fox's Bridge (repairs)	100	0	0
Millerton Township	100	0	0
137. Britannia Mine Road	200	0	0
139. Granity Creek - Ngakawau	100	0	0
140. Seddonville - Mokihinui Mine	100	0	0
141. Lyell-Eight-mile	150	0	0
142. Burnett's Face - Coalbrookdale	200	0	0
143. Mokihinui end of Westport Road	150	0	0
145. Welshman's Flat Bridge	800	0	0
146. Waimangaroa-Granity	425	0	0
147. Charleston-Four-mile	400	0	0
149. Seddonville Roads	25	0	0
150. Seddonville Colliery - Township	50	0	0
151. Millerton Township streets	150	0	0
152. Mears's Road	50	0	0
153. Denniston-Burnett's Face	100	0	0
154. Mokihinui - Inangahua Junction	50	0	0
156. Bullock Creek	218	0	0
157. Mine Creek Township	100	0	0
158. Victory Mine Track, Lyell	25	0	0
159. New Creek Track	50	0	0
160. Prospecting Track, St. John's Terrace	25	0	0
164. Road to Dredges, Buller	100	0	0
165. Road to Dredge, Berlin's	50	0	0

Inangahua County.

166. Reefton-Maruia	150	0	0
167. Boatman's Short Track	32	6	1
169. Matakkitaki-Glenroy-Maruia	302	3	0
170. Maruia-Glenroy	162	11	7
171. Murray Creek Road	548	15	9
173. Progress Junction - Globe Hill	91	9	4
174. Loughnan's Coal-mine Road	250	0	0
177. Road to Matakkitaki River Bridge	195	0	0
178. Maruia Road, via Caslani's	223	15	8
179. Murray Creek - Kirwan's Battery	485	4	11

						£	s.	d.
181. Kirwan's Reward - Battery-site	...	...	...	...	...	52	0	0
182. Boatman's Road	...	...	...	...	...	19	13	11
183. McLiver and Kearn's Coal-pit Road	...	...	...	...	...	97	12	0
184. Crushington Road (widening)	...	...	...	...	...	46	19	0
185. O'Rorke's - Horse Terrace	...	...	...	...	...	55	10	0
186. Specimen Hill Road (widening)	...	...	...	...	...	124	5	0
187. Blackwater - Big River	...	...	...	...	...	300	0	0
188. Blackwater Creek Track	...	...	...	...	...	50	0	0
193. Mangles Valley Road	...	...	...	...	...	20	4	2

WESTLAND.

Grey County.

194. Seven-mile-Nine-mile	...	...	...	...	...	150	0	0
195. Moonlight-Blackball	...	...	...	...	...	220	0	0
198. Ahaura-Moonlight-Shellback...	...	...	...	...	...	100	0	0
199. Seven-mile - McLean's Creek	...	...	...	...	...	100	0	0
200. Waipuna Road	...	...	...	...	...	100	0	0
202. Payne's Gully Track	...	...	...	...	...	175	0	0
203. Prospecting Track up to Deadman's	...	...	...	...	...	100	0	0
204. Road, Grey-Barrytown to State Coal-mine	...	...	...	...	...	250	0	0
205. Blackball - Healey's Gully	100	0	0
208. Cobden-Brighton	75	0	0

Brunner Borough.

210. Brunner-Blackball	95	3	0
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Westland County.

213. Browning's Pass Track	150	0	0
214. Callery Track	79	14	0
Waiho Prospecting Track	40	6	0
217. Larrikin's-Loop-line	...	...	...	...	...	200	1	6
218. Fox's Road	...	...	...	...	...	53	10	0
219. Taipo Prospecting Track	...	...	...	...	...	179	2	6
220. Kanieri Lake Road	...	...	...	...	...	95	11	0
221. Westland Reefs Prospecting Track	...	...	...	...	...	117	10	0
222. Gillam's Gully Track	...	...	...	...	...	52	10	0
223. Milltown improvements	...	...	...	...	...	52	10	0
226. Back Creek Road (extension)	...	...	...	...	...	150	0	0
227. Spencer's Road (widening)	...	...	...	...	...	150	0	0
230. Big Dam Track (repairs)	...	...	...	...	...	100	0	0
231. Callaghan's Road (repairs)	...	...	...	...	...	100	0	0
232. Fourth Terrace Track (repairs)	...	...	...	...	...	80	0	0

OTAGO.

Tuapeka County.

235. Waipori-Waitahuna	...	...	...	...	...	66	1	0
236. Doherty and Hopkin's Bridges	...	...	...	...	...	231	0	0
250. Lawrence-Clyde	...	...	...	...	...	48	10	0

Vincent County.

237. Fraser River Bridge	...	...	...	...	...	273	9	0
240. Ryan's Coal-pit Road	...	...	...	...	...	150	0	0
241. Wanaka Lake Track	...	...	...	...	...	69	12	11
243. Devil's Creek Bridge (repairs)	...	...	...	...	...	451	16	9

Lake County.

247. Garston-Nevis	...	...	...	...	...	75	0	0
248. Queenstown - Gentle Annie	...	...	...	...	...	188	0	0
249. Shotover Valley Road	100	0	0

SOUTHLAND.

Wallace County.

251. Colac - Round Hill	300	0	0
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Southland County.

253. Garston-Nevis	100	0	0
254. Riversdale-Waikaia	100	0	0
255. Waikaka Valley Main Road (repairs)	100	0	0
256. Waikaia Bridge	...	...	...	...	...	500	0	0

	£	s.	d.
257. Waikaka Valley Road to dredging claims	100	0	0
258. Waimumu Road to dredging claims	100	0	0
259. Nokomai Road	50	0	0
260. Waikaia to dredges	100	0	0
261. Muddy Creek Road to dredge	100	0	0

Stewart Island County.

264. Stewart Island Road to mines	180	0	0
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Roads Department.

128. Mokihiui—Little Wanganui	1,917	7	8
155. Big Ohika Bridge	58	17	2
172. Inangahua Bridge	39	10	0
188. Blackwater Creek Road	75	8	4
211. Reefton-Hokitika-Ross	2,631	14	7
212. Mount Hercules deviation	142	13	0
225. Deviation, Reefton-Hokitika-Ross	1,524	14	5
233. Donnelly's Creek Bridge	145	7	5
262. Orepuki—Preservation Inlet	81	18	7
224. Wilberforce—Westland Reefs	1,753	13	4

Public Works Department.

96. Collingwood Bridge	310	1	2
138. Denniston Hill Road	819	7	7
136. Fairdown—Waimangaroa	196	4	3
196. Taylorville Bridge	81	6	9

£38,969 14 3

Expenditure for year ended 31st March, 1907	38,969	14	3
Expenditure for previous years	703,985	12	6

Total expenditure to 31st March, 1907, on Roads on Goldfields ... £742,955 6 9

STATEMENT showing the EXPENDITURE ON DEVELOPMENT of GOLDFIELDS out of PUBLIC WORKS FUND
for Year ending 31st March, 1907.

Assistance towards Races, Reservoirs, Pumping, Draining, and Waterworks on Goldfields.

Vote No. 108.—Item No. 1.—

	£	s.	d.
Deep-level drainage tunnel, Kumara	481	18	9
Extension Waimea Race to Scandinavian Hill	123	3	10
Repairs, No. 3 channel	17	5	1
Waimea main tail-race extension	40	0	0

Ross Borough.

Repairs, Jones's Creek storm channel	50	0	0
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Assistance towards Prospecting.

Item No. 2.—

Coromandel County, J. Courtney	21	15	0
„ A. and W. McNeil	13	10	0
„ McNeil and Gunn	26	0	0
„ F. Bostleman	10	10	0
„ A. McNeil	6	10	0
„ O'Keefe and Party	18	0	0
„ J. S. Wilson	45	0	0
„ Coromandel Big Reefs (Limited)	50	0	0
„ C. Blasch	6	10	0
„ McGuinness and Party	27	0	0
„ J. and M. Fitzgerald	3	0	0
„ R. H. M. Kenner... ..	31	7	0
„ J. A. Thompson	55	12	2
Thames County, S. Stephens	5	8	0
„ Addewate and Thompson	21	0	0
Ohinemuri County, W. H. Skeen	9	18	0
„ Williams and Howe	9	12	0
„ Muirland and Harvey	10	0	0
„ McGeehan and Scanlon	21	10	3
Tauranga County, Waitakohe Claim	8	2	0
Prospecting Syndicate, Anatoki	98	12	0

Item No. 2—*continued*.

	£	s.	d.
Takaka Miners' Association, Upper Anatoki ...	19	10	0
Slate River Sluicing Company, tunnel ...	150	0	0
Buller County, Young and McKay ...	68	10	3
„ Findlay and Crawford ...	39	4	6
„ C. Stewart ...	21	0	0
„ Hooper and Party ...	20	2	6
Inangahua County, S. Neale ...	4	0	0
„ Caledonian Syndicate ...	161	15	0
„ P. Cunningham ...	13	0	0
„ C. Clifford ...	13	0	0
„ Howell and Kennedy ...	30	6	0
„ Webber and Lee ...	18	0	0
Upper Blackwater Miners' Association ...	3	15	0
„	330	0	0
Grey County, Griffiths and Williams ...	64	11	0
„ Duncan Steel and Party ...	90	4	0
„ Lemon and Party ...	26	5	0
Upper Grey Miners' Association, D. Absolum ...	30	0	0
„ McColl and Party ...	28	10	0
Brunner Prospecting Association ...	54	12	0
Prospecting Kumara Goldfield ...	330	19	2
Westland County, Prospecting Rimu ...	95	9	0
„ G. Noble ...	193	19	6
„ Boyd and Party ...	71	2	0
„ G. Davis ...	5	0	0
„ R. A. Harcourt ...	78	0	0
Westland Mining League ...	10	10	0
Rimu Miners' Association, Chow's Terrace ...	75	0	0
J. T. Johnson, Waipori Lead ...	163	0	5
Tamaiti Gold-mining Company ...	250	0	0
Item No. 4. Purchase of drills ...	4,600	15	10
8. Compensation: Proclamation of rivers ...	741	3	0
9. Kelly's Terrace Tunnel ...	35	0	0
10. Repairs, Argyle Water-race ...	150	0	0
11. Queen of Beauty pumping-plant maintenance ...	197	5	9
15. Alexandra Water-race ...	2,672	15	5
Credit: Cost and expenses purchase of plant and pumps of Queen of Beauty Claim	1,003	0	0
Expenditure for year ended 31st March, 1907 ...	11,064	9	5
Expenditure for previous years ...	766,961	0	0
Total expenditure to 31st March, 1907, on development of goldfields	£778,025	9	5

No. 1.

STATEMENT showing the REVENUE of the GOLDFIELDS collected in the several DISTRICTS of the COLONY of NEW ZEALAND for the Period from 1st January to 31st December, 1906.

District.	Miners' Rights.	Business Licences, Machine and Residence Sites.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
AUCKLAND.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Coromandel ..	30 10 0	..	..	414 19 7	..	..	17 4 9	462 14 4
Te Aroha ..	27 0 0	577 17 10	37 10 0	172 6 7	8 15 0	..	7 15 0	831 4 5
Paeroa ..	90 10 0	148 14 7	..	926 3 4	..	6 16 0	191 18 6	1,364 2 5
Thames ..	260 10 0	142 12 4	2 15 0	1,299 8 4	35 6 0	76 9 0	65 8 0	1,882 9 8
Puhipuhi ..	7 15 0	0 5 0	..	15 0 0	..	3 5 6	0 5 0	26 10 6
Tauranga ..	2 15 0	..	..	..	..	..	..	2 15 0
Waikato ..	186 0 0	519 4 1	0 10 0	1,687 8 11	46 2 0	174 17 6	165 19 2	2,780 1 8
Totals ..	605 0 0	1388 14 10	40 15 0	4,515 6 9	90 3 0	261 8 0	448 10 5	7,349 18 0
NELSON.								
Motueka ..	0 15 0	..	..	12 0 0	..	0 2 0	..	12 17 0
Collingwood and Takaka ..	11 15 0	2 16 0	1 10 0	423 5 6	2 6 0	10 9 0	93 19 6	546 1 0
Westport ..	98 5 0	2 12 0	6 0 0	257 13 9	20 11 6	51 9 0	1,502 9 2	1,939 0 5
Charleston ..	28 0 0	0 4 0	2 14 0	32 17 2	1 1 0	4 14 0	4 6 0	73 16 2
Ahaura ..	51 0 0	..	..	2,537 10 11	14 4 0	47 3 0	2 12 0	2,652 9 11
Reefton ..	69 5 0	16 10 8	..	983 7 11	..	96 14 6	1 8 5	1,167 6 1
Wangapeka ..	8 5 0	..	..	..	..	..	0 1 0	8 6 0
Lyell and Murchison ..	34 0 0	0 1 0	..	404 3 1	..	29 12 0	32 0 10	499 16 11
Totals ..	301 5 0	22 3 3	10 4 0	4,650 18 4	38 2 6	240 3 6	1,636 16 11	6,699 13 6
MARLBOROUGH.								
Havelock ..	10 15 0	3 15 0	..	86 8 0	0 10 0	0 18 0	0 15 0	53 1 0
Blenheim ..	12 5 0	..	1 5 0	204 14 6	2 2 0	8 6 0	8 9 6	237 2 0
Totals ..	23 0 0	3 15 0	1 5 0	241 2 6	2 12 0	9 4 0	9 4 6	290 3 0
WESTLAND.								
Hokitika and Kaniere ..	51 0 0	..	..	251 18 9	..	..	58 1 0	360 19 9
Greymouth ..	115 5 0	299 11 11	1 15 0	4,586 3 9	0 10 0	18 12 0	..	5,021 17 8
Ross ..	24 0 0	..	..	129 0 0	..	..	74 18 0	227 18 0
Stafford ..	20 5 0	5 0 0	..	262 1 5	13 12 0	21 1 6	..	321 19 11
Okarito ..	12 5 0	..	2 5 0	78 12 2	3 16 0	..	12 4 8	109 2 10
Kumara ..	35 5 0	..	3 10 0	192 3 8	6 9 0	9 6 0	0 11 6	247 5 2
Totals ..	258 0 0	304 11 11	7 10 0	5,499 19 9	24 7 0	48 19 6	145 15 2	6,289 3 4
CANTERBURY.								
Ashburton ..	1 5 0	..	..	..	..	..	..	1 5 0
OTAGO AND SOUTHLAND.								
Middlemarch ..	0 15 0	0 5 0	0 15 0	14 3 4	0 6 0	0 12 0	..	16 16 4
Tapanui ..	1 5 0	..	1 4 0	5 1 3	0 8 0	1 2 0	0 5 0	9 5 3
Hindon ..	25 10 0	..	..	73 0 6	1 3 0	5 2 0	2 11 0	107 6 6
Naseby ..	53 10 0	16 16 10	..	409 15 0	..	37 10 0	37 18 0	555 9 10
Black's ..	..	..	..	..	..	..	..	..
Alexandra ..	112 5 0	18 0 0	27 5 0	1,917 3 6	28 15 0	134 4 0	21 18 0	2,259 10 6
Clyde ..	..	..	..	..	..	..	..	..
Roxburgh ..	..	..	..	..	..	..	..	..
Cromwell ..	62 10 0	6 0 0	0 10 0	676 13 7	..	81 8 0	10 9 2	837 10 9
Queenstown ..	45 15 0	2 5 0	0 5 0	364 17 2	11 9 0	21 16 0	4 7 0	450 14 2
Arrowtown ..	10 0 0	2 17 3	..	166 16 10	12 6 0	20 2 0	0 1 0	212 3 1
Lawrence ..	54 0 0	2 16 0	4 5 0	742 12 5	13 16 0	17 17 0	9 15 6	845 1 11
Orepuki ..	..	..	..	31 17 5	..	9 9 0	12 1 0	53 7 5
Riverton and Longwood ..	30 10 0	10 16 0	..	165 10 1	..	10 13 0	9 14 0	227 3 1
Pembroke ..	7 15 0	..	..	2 0 0	..	..	0 2 0	9 17 0
Waikaia ..	8 5 0	3 0 0	..	531 6 8	..	15 12 0	38 13 0	596 16 3
Wyndham ..	3 0 0	..	0 5 0	6 16 3	0 8 0	1 0 0	0 5 0	11 14 3
Gore ..	9 15 0	..	0 5 0	159 14 2	0 18 0	..	11 7 0	181 19 2
Totals ..	424 15 0	62 16 1	34 14 0	5,267 7 9	69 9 0	356 7 0	159 6 8	6,374 15 6
Grand totals ..	1,618 5 0	1782 1 1	94 8 0	20,174 15 1	224 13 6	916 2 0	2,399 13 8	27,204 18 4

No. 2.

STATEMENT showing the REVENUE of the GOLDFIELDS collected in the several DISTRICTS of the COLONY of NEW ZEALAND for the Period from the 1st January to the 31st March, 1907.

District.	Miners' Rights.	Business Licenses, Machine and Residence Sites.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
AUCKLAND.								
Coromandel ..	10 15 0	.. ..	.. ..	107 1 0	.. ..	.. ..	3 4 3	121 0 3
Thames ..	132 10 0	16 15 0	1 0 0	502 12 0	8 13 0	61 5 0	998 15 5	1,721 10 5
Te Aroha ..	6 5 0	141 5 2	13 0 0	97 6 2	2 1 0	.. ..	22 0 0	281 17 4
Paeroa ..	19 5 0	111 15 7	.. ..	500 6 8	.. ..	0 11 0	29 16 3	661 14 6
Putipuhi ..	1 10 0	.. ..	.. ..	.. ..	.. ..	0 7 0	.. ..	1 17 0
Tauranga ..	1 5 0	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 5 0
Waikato ..	41 5 0	146 14 6	.. ..	897 1 4	10 6 0	25 17 6	30 10 0	1,151 14 4
Totals ..	212 15 0	416 10 3	14 0 0	2,104 7 2	21 0 0	88 0 6	1,084 5 11	3,940 18 10
NELSON.								
Collingwood and Takaka ..	2 5 0	0 16 0	0 5 0	158 6 1	0 11 0	0 19 0	19 4 0	182 6 1
Westport ..	20 0 0	0 12 0	1 5 0	76 0 9	3 6 0	9 16 0	493 8 4	604 8 1
Charleston ..	6 0 0	.. ..	.. ..	7 15 0	0 8 0	0 16 0	2 7 0	17 6 0
Ahaura ..	16 10 0	.. ..	.. ..	374 13 11	4 11 0	8 13 0	2 2 0	406 9 11
Wangapeka ..	0 10 0	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	0 10 0
Reefton ..	11 5 0	3 0 0	.. ..	889 8 3	.. ..	14 3 0	0 18 0	418 14 3
Lyell and Murchison ..	10 10 0	0 2 0	.. ..	115 18 2	.. ..	9 4 0	14 7 10	150 2 0
Motueka ..	.. ..	.. ..	.. ..	2 3 4	.. ..	.. ..	0 6 0	2 9 4
Totals ..	67 0 0	4 10 0	1 10 0	1,124 5 6	8 16 0	43 11 0	532 18 2	1,782 5 8
MARLBOROUGH.								
Havelock ..	2 10 0	1 10 0	.. ..	2 10 9	0 4 0	0 2 0	.. ..	6 16 9
Blenheim ..	2 10 0	.. ..	0 15 0	85 16 11	1 0 0	2 10 0	2 17 6	95 9 5
Totals ..	5 0 0	1 10 0	0 15 0	88 7 8	1 4 0	2 12 0	2 17 6	102 6 2
WESTLAND.								
Hokitika and Kaniere ..	15 10 0	.. ..	.. ..	42 14 6	.. ..	.. ..	0 5 0	58 9 6
Greymouth ..	25 0 0	73 14 8	.. ..	3,485 5 2	.. ..	5 4 0	13 7 0	3,602 10 10
Ross ..	3 15 0	.. ..	.. ..	18 15 0	.. ..	.. ..	0 9 6	22 19 6
Stafford ..	5 5 0	.. ..	.. ..	65 15 1	2 4 0	2 10 0	.. ..	75 14 1
Kumara ..	12 10 0	.. ..	1 5 0	51 12 3	1 19 0	3 3 0	6 1 0	76 10 3
Okarito ..	0 5 0	.. ..	0 10 0	12 9 3	0 8 0	.. ..	1 8 0	15 0 3
Totals ..	62 5 0	73 14 8	1 15 0	3,676 11 3	4 11 0	10 17 0	21 10 6	3,851 4 5
CANTERBURY.								
Ashburton ..	0 15 0	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	0 15 0
OTAGO AND SOUTHLAND.								
Tapanui ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Hindon ..	4 5 0	.. ..	.. ..	35 0 0	0 10 0	0 7 0	0 6 0	40 8 0
Naseby ..	13 0 0	4 0 0	.. ..	128 7 7	.. ..	5 6 0	6 13 0	157 6 7
Roxburgh ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Alexandra ..	16 5 0	1 5 0	2 15 0	629 8 10	7 6 0	7 13 0	14 12 0	679 4 10
Clyde ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Black's ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Pembroke ..	0 15 0	.. ..	.. ..	0 4 0	.. ..	.. ..	.. ..	0 19 0
Cromwell ..	13 0 0	.. ..	.. ..	265 11 3	.. ..	15 2 0	1 1 0	294 14 3
Queenstown ..	12 5 0	.. ..	.. ..	55 8 11	2 4 0	3 19 0	1 5 0	75 1 11
Arrowtown ..	4 5 0	2 0 0	.. ..	63 10 3	0 5 0	3 12 0	0 1 0	73 13 3
Lawrence ..	11 15 0	0 1 0	1 0 0	312 15 3	2 0 0	6 2 0	7 0 6	340 13 9
Waikaka ..	2 0 0	3 0 0	.. ..	225 13 9	.. ..	8 8 0	2 13 0	236 14 9
Orepuki ..	.. ..	.. ..	.. ..	7 15 7	.. ..	1 12 0	1 1 0	10 8 7
Riverton ..	8 0 0	4 10 0	.. ..	77 18 9	.. ..	1 5 0	20 5 0	111 18 9
Wyndham ..	1 15 0	.. ..	.. ..	6 2 6	0 5 0	0 12 0	4 6 0	13 0 6
Middlemarch ..	.. ..	.. ..	.. ..	4 15 0	.. ..	.. ..	.. ..	4 15 0
Gore ..	2 10 0	.. ..	.. ..	34 12 6	0 3 0	.. ..	3 0 0	40 5 6
Totals ..	89 15 0	14 16 0	3 15 0	1,847 4 2	12 18 0	48 18 0	62 8 6	2,079 4 8
Grand totals ..	497 10 0	511 0 11	21 15 0	8,840 15 9	48 4 0	1,708 10 7	193 18 6	11,756 14 9

No. 3.

COMPARATIVE RETURN of REVENUE derived from the GOLDFIELDS in the several DISTRICTS of NEW ZEALAND during the Years 1906 and 1905, showing INCREASE or DECREASE under each Head of Revenue.

District.	Miners' Rights.	Business Licenses, &c.	Water-races, Sluices, &c.	Gold-mining Leases, Rents, and Royalties.	Registration.	Fees and Fines, Wardens' Courts.	Miscellaneous.	Gold Duty.	Totals.
AUCKLAND—	£	£	£	£	£	£	£	£	£
Year 1905	811	1,432	26	5,532	81	188	529	22,254	30,858
Year 1906	605	1,389	41	4,515	90	261	449	36,608	48,958
Increase .. .. .	..	..	15	..	9	73	..	14,349	18,100
Decrease	206	48	..	1,017	..	..	80	..	..
NELSON—									
Year 1905	457	13	9	3,371	34	171	2,049	..	6,104
Year 1906	301	22	11	4,651	..	240	1,637	..	6,900
Increase .. .. .	..	9	2	1,280	4	69	..	..	796
Decrease	156	..	..	..	..	..	412	..	..
MARLBOROUGH—									
Year 1905	18	6	2	125	1	5	3	..	160
Year 1906	23	4	1	241	3	9	9	..	290
Increase	5	..	..	116	2	4	6	..	130
Decrease .. .. .	..	2	1	..	..	..	..	..	..
CANTERBURY—									
Year 1905	2	..	..	..	..	..	..	..	2
Year 1906	1	..	..	..	..	..	..	..	1
Increase .. .. .	..	..	..	..	..	..	..	..	..
Decrease	1	..	..	..	..	..	..	..	1
WESTLAND—									
Year 1905	300	65	10	1,594	18	80	6,45	..	8,522
Year 1906	258	305	7	5,500	24	49	146	..	6,289
Increase .. .. .	..	240	..	3,906	6	..	..	..	..
Decrease	42	..	3	..	..	81	6,309	..	2,233
OTAGO—									
Year 1905	442	86	28	6,156	35	231	220	..	7,198
Year 1906	425	63	35	5,267	69	357	159	..	6,375
Increase .. .. .	..	..	7	..	34	126	..	..	..
Decrease	17	23	..	889	..	..	61	..	828
Total increase .. .. .	..	181	20	3,896	55	241	..	14,349	10,969
Total decrease	417	..	..	..	..	..	6,856	..	..

No. 4.

COMPARATIVE RETURN of the TOTAL AMOUNTS of GOLDFIELDS REVENUE (exclusive of Gold Duty) collected in the several Districts during the Years 1905 and 1906 and the Quarters ending 31st March, 1906 and 1907 respectively, showing the INCREASE or DECREASE in respect of each District.

District.	Years 1905 and 1906.				Quarters ending 31st March, 1906, and 31st March, 1907.			
	1905.	1906.	Increase.	Decrease.	1907.	1906.	Increase.	Decrease.
AUCKLAND.								
Coromandel	£ 463	£ 470	£ ..	£ 7	£ 121	£ 172	£ ..	£ 51
Thames	1,882	2,284	..	402	1,723	656	1,066	..
Whangarei .. ..	..	6	..	6	..	9	..	9
Ohinemuri	1,364	2,147	..	783	662	510	152	..
Te Aroha	831	959	..	128	282	169	113	..
Tauranga	8	8	..	5	1	2	..	1
Waikato	2,780	2,725	55	..	1,152	1,002	150	..
Puhapuhi	27	..	27	..	2	..	2	..
NELSON.								
Motueka	13	13	..	..	2	..	2	..
Collingwood and Takaka	546	300	246	..	182	140	42	..
Westport	1,939	2,326	..	387	604	481	123	..
Charleston	74	87	..	13	17	16	1	..
Ahaura	2,652	1,035	1,617	..	406	314	92	..
Reefton	1,167	1,823	..	656	419	663	..	244
Wangapeka	8	4	4	..	1	1	..	..
Lyell and Murchison ..	500	516	..	16	150	126	24	..
MARLBOROUGH.								
Havelock	53	60	..	7	7	20	..	13
Blenheim	237	101	136	..	95	82	13	..
WESTLAND.								
Hokitika	361	294	67	..	58	108	..	50
Kanieri .. ..	..	..	..	..	..	..	..	..
Greymouth	5,022	6,726	..	1,704	3,603	2,280	1,323	..
Ross	228	436	..	208	23	52	..	29
Stafford and Goldsborough	322	411	..	89	76	96	..	20
Okarito	109	98	11	..	15	34	..	19
Kumara	247	557	..	310	76	122	..	46
CANTERBURY.								
Ashburton	1	1	..	..	1	..	1	..
OTAGO AND SOUTHLAND.								
Hindon	107	91	16	..	40	26	14	..
Naseby	555	598	..	43	157	117	40	..
Alexandra .. ..	..	..	..	..	..	..	..	..
Black's .. ..	..	..	..	..	..	..	..	..
Clyde	2,260	2,843	..	583	679	742	..	63
Roxburgh .. ..	..	..	..	..	..	..	..	..
Cromwell	838	902	..	64	295	341	..	46
Arrowtown	212	261	..	49	74	105	..	31
Queenstown	451	403	48	..	75	119	..	44
Pembroke	10	7	3	..	1	1	..	..
Lawrence	845	903	..	58	341	363	..	22
Waikato	597	621	..	24	237	223	14	..
Tapanui	9	26	..	17	..	6	..	6
Orepuki, Preservation, } Longwood, and Riverton }	281	275	6	..	122	111	11	..
Wyndham	12	12	..	..	18	13	..	..
Middlemarch	17	17	..	..	5	5	..	..
Gore	182	239	..	57	40	94	..	54
Totals.. ..	27,205	30,585	2,236	5,616	11,756	9,321	3,183	748
Net decrease .. ..	..	..	..	3,380	..	..	..	..
Net increase .. ..	..	..	..	..	..	..	2,435	..

No. 5.

RETURN of GOLD DUTY credited to LOCAL BODIES for the Year ended 31st December, 1906, and Quarter ended 31st March, 1907.

Local Body.				For the Year ended 31st December, 1906.			For the Quarter ended 31st March, 1907.		
COUNTIES—				£	s.	d.	£	s.	d.
Coromandel .. ..	..	..	..	219	8	8	..	..	..
Ohinemuri .. ..	..	..	..	5,974	17	7	1,191	17	9
Piako .. ..	..	..	..	45	11	3	..	..	..
Thames .. ..	..	..	..	814	5	8	147	15	0
BOROUGHS—				..	..	..	..	..	..
Thames .. ..	..	..	..	4,370	8	2	2,224	10	11
Waikato .. ..	..	..	..	15,932	17	2	4,839	18	7
Totals .. ..	..	..	..	27,357	3	6	8,404	2	3

R. B. VINCENT,
Accountant to the Treasury.

The Treasury, Wellington, 18th May, 1907.

No. 6.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY* for EXPORTATION from NEW ZEALAND from 1st APRIL, 1857, to 31st DECEMBER, 1906.

PRODUCE OF THE GOLDFIELDS IN		DURING THE QUARTER ENDED 31st DECEMBER, 1906.		ENTERED FOR EXPORTATION TO THE 30th SEPTEMBER, 1906.		TOTAL ENTERED FOR EXPORTATION FROM NEW ZEALAND TO THE 31st DECEMBER, 1906.	
County or Borough.	District.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Oz.	£	Oz.	£	Oz.	£
County of Thames ..	Auckland	1,477	6,186				
Ohinemuri ..		22,331	80,286				
Coromandel ..		647	2,681				
Piako ..		86	360				
Borough of Thames ..		22,245	98,706				
Waikato ..		46,109	189,552				
Great Barrier Island ..		349	1,246				
		93,244	374,017	3,899,094	14,615,832	3,992,338	14,989,849
	Wellington ..	..	..	188	706	188	706
County of Marlborough	Marlborough ..	..	..	89,099	347,214	89,099	347,214
County of Collingwood ..	Nelson	173	693				
Waimea ..		..	..	
Takaka ..		..	..	
		173	693	1,714,406	6,796,774	1,714,579	6,797,467
County of Buller ..	West Coast	2,011	7,449				
Inangahua ..		12,969	50,248				
Grey ..		6,918	27,817				
Westland ..		4,041	16,182				
Borough of Kumara ..		..	..	
Hokitika ..		80	120				
Ross ..		324	1,296				
		26,293	103,112	5,211,379	20,743,259	5,237,672	20,846,371
	Canterbury ..	..	..	99	387	99	387
County of Taieri ..	Otago	269	1,086				
Tuapeka ..		7,246	29,536				
Vincent ..		7,874	31,835				
Maniototo ..		547	2,221				
Waihemo ..		245	987				
Waitaki ..		336	1,378				
Lake ..		1,358	5,464				
Wallace ..		1,259	5,094				
Waikouaiti ..		..	..	
Bruce ..		12	48				
Clutha ..		..	..	
Fiord ..		..	..	
Southland ..		12,958	52,596				
Stewart Island		..	..		
		32,104	130,245	6,644,184	26,388,425	6,676,288	26,518,670
	Unknown ..	..	..	207	824	207	824
Totals ..	..	151,814	608,067	17,558,656	68,893,421	17,710,470	69,501,488

* Gold duty abolished in the South Island on the 31st March, 1891, by "The Gold Duty Abolition Act, 1890."

No. 7.

COMPARATIVE RETURN for the YEARS ended 31st DECEMBER, 1906 and 1905.

PRODUCE OF THE GOLDFIELDS IN THE DISTRICT OF	DURING THE QUARTER ENDED				TOTALS FOR YEAR 1906.		TOTALS FOR YEAR 1905.	
	31st March, 1906.	30th June, 1906.	30th September, 1906.	31st December, 1906.	Quantity.	Value.	Quantity.	Value.
	Oz.	Oz.	Oz.	Oz.	Oz.	£	Oz.	£
Auckland ..	62,495	67,174	72,504	93,244	295,417	1,195,541	232,215	935,602
Nelson ..	485	1,803	483	173	2,944	11,746	6,469	25,862
West Coast ..	33,093	17,551	27,806	26,293	104,743	414,292	109,704	438,258
Otago ..	33,616	48,904	46,115	32,104	160,739	649,325	172,098	694,214
Totals for 1906	129,689	135,432	146,908	151,814	563,843	2,270,904	..	..
Totals for 1905	123,975	126,742	144,480	125,289	..	..	520,486	2,093,936

No. 8.

RETURN of the QUANTITY and VALUE of GOLD ENTERED for DUTY* for EXPORTATION from NEW ZEALAND from 1st APRIL, 1857, to 31st MARCH, 1907.

PRODUCE OF THE GOLDFIELDS IN		DURING THE QUARTER ENDED 31st MARCH, 1907.		ENTERED FOR EXPORTATION TO THE 31st DECEMBER, 1906.		TOTAL ENTERED FOR EXPORTATION FROM NEW ZEALAND TO THE 31st MARCH, 1907.	
County or Borough.	District.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Oz.	£	Oz.	£	Oz.	£
County of Thames ..	Auckland	2,211	9,201				
Ohinemuri ..		11,919	42,591				
Borough of Thames ..		9,179	38,583				
Waihi ..		41,499	170,018				
Great Barrier Island ..		458	1,600				
		65,266	261,998	3,992,388	14,989,849	4,057,604	15,251,842
	Wellington ..	..	..	188	706	188	706
County of Marlborough	Marlborough ..	110	438	89,099	347,214	89,209	347,652
County of Collingwood	Nelson	880	3,321				
Waiimea ..		..	..	..	..	..	..
Takaka ..		295	1,180				
		1,125	4,501	1,714,579	6,797,467	1,715,704	6,801,968
County of Buller ..	West Coast	2,986	11,476				
Inangahua ..		11,184	43,620				
Grey ..		7,541	30,287				
Westland ..		3,298	13,233				
Borough of Hokitika ..		19	74				
Ross ..		205	820				
		25,133	99,510	5,237,672	20,846,371	5,262,805	20,945,881
	Canterbury ..	..	..	99	387	99	387
County of Taieri ..	Otago	298	1,200				
Tuapeka ..		5,108	20,661				
Vincet ..		6,024	24,246				
Maniototo ..		1,209	4,879				
Waihemo ..		800	1,208				
Waitaki ..		928	3,711				
Lake ..		675	2,724				
Wallace ..		1,457	5,876				
Bruce ..		44	177				
Fiord ..		8	12				
Southland ..		10,488	42,336				
		26,484	107,030	6,676,288	26,518,670	6,702,772	26,625,700
Unknown .. ..	..	..	..	207 ¹ / ₂	824	207	824
Totals .. ..	..	118,118	473,472	17,710,470	69,501,488	17,823,588	69,974,960

* Gold duty abolished in the South Island on 31st March, 1891, by "The Gold Duty Abolition Act, 1890."

No. 9.

COMPARATIVE RETURN for the QUARTERS ended 31st MARCH, 1907, and 31st MARCH, 1906.

District of				Quarter ended 31st March, 1907.		Quarter ended 31st March, 1906.	
				Quantity.	Value.	Quantity.	Value.
				Oz.	£	Oz.	£
Auckland .. ..	..	..	..	65,266	261,998	62,495	254,559
Marlborough ..	..	..	..	110	438	..	..
Nelson .. ..	..	..	..	1,125	4,501	485	1,918
West Coast ..	..	..	..	25,133	99,510	33,093	131,928
Otago .. ..	..	..	..	26,484	107,030	33,616	135,454
Totals .. ..	..	..	..	118,118	473,472	129,689	523,859

W. T. GLASGOW,
Secretary and Inspector.

Department of Trade and Customs, Wellington, 29th April, 1907.

No. 10.

STATEMENT showing the PRICE of GOLD per OUNCE, PRICE charged per TON for CRUSHING QUARTZ or CEMENT, and PRICES charged for WATER per SLUICE-HEAD per WEEK, during the Year ending 31st December, 1906.

Dist. ct.	Price of Gold per Ounce.	Price charged per Ton for crushing Quartz or Cement.	Price charged for Water per Sluice-head per Week.	Remarks.
	£ s. d.	£ s. d.	£ s. d.	
AUCKLAND—Thames	2 12 6	0 5 0	£3 to £4	40 in. sluice-head.
Coromandel	£3 15s. to £4	10s. to £1	..	..
Paeoa	4 4 0	..	..	..
Te Aroha	4 4 0	..	..	..
Waihi	4 4 7	..	..	..
Taura .. ..	..	..	..	..
MARLBOROUGH—Havelock	£3 15s. to £3 17s.	..	..	..
Blenheim	£3 15s. to £3 18s. 6d.	..	..	..
NELSON—Wangapeka	£3 10s. to £3 15s.	..	..	..
Motueka .. ..	..	..	..	..
Charleston	3 19 0	..	2 5 0	20 in. is a sluice-head.
Inangahua	3 19 0	..	..	..
Collingwood	£3 18s. 6d. to £4	..	..	..
Takaka	3 14 6	..	..	..
Westport	3 17 6	..	..	..
Murchison	£3 17s. to £4	0 10 0	..	..
Lyell	£3 17s. to £4	0 10 0	..	..
WESTLAND—Hokitika, Kanieri, and } Waima	£3 18s. to £4	..	2 10 0	40 in.
Totara and Ross	3 18 0	1 5 0	1 0 0	..
Stafford	3 18 0	..	0 15 0	..
Greymouth	3 17 0	..	0 10 0	Sluice-heads 20 in. by 2 in.
Kumara	3 18 0	..	0 10 0	..
Ahaura	3 19 0	0 10 0	1 0 0	..
Okarito	3 18 0	..	..	..
OTAGO AND SOUTHLAND—Hindon	3 17 0	..	..	..
Tuapeka	3 17 6	..	2 10 0	..
Longwood .. ..	..	..	..	..
Preservation and Waiau } Orepuki and Round Hill } Arrow (Wakatipu Goldfield) and Queenstown	3 18 6	..	1 10 0	40 cubic in. 1 sluice-head.
Mount Ida	3 17 0	0 3 6	1 5 0	..
Macrae's, Hyde .. ..	..	..	0 10 0	40 cubic in. 1 sluice-head.
Hamilton, Serpentine } Maerewhenua	3 17 0	..	1 0 0	20 in. by 2 in.
Cromwell	3 17 0	0 8 0	1 4 0	20 in. by 2 in.
Waikaia	3 17 6	..	..	..
Tapanui	3 17 0	..	..	..
Wyndham	£3 17s. 6d. to £3 18s.	..	..	2s. less for burnt gold.
Roxburgh .. ..	..	..	..	..
Clyde and Alexandra } Black's	3 17 0	..	..	..
Gore .. ..	..	..	..	..

No. 11.
RETURN SHOWING THE AVERAGE PRICES OF PROVISIONS AND LIVE-STOCK FOR THE YEAR ENDING 31st DECEMBER, 1906.

District.	Beer.	Brandy.	Bread— Wheat.	Butter— Fresh.	Butter— Salt.	Cheese.	Coffee.	Flour.	Grain— Wheat.	LIVE-STOCK.					MEAT.				Tobacco.	Wine.					
										Cattle— Horned.	Goats.	Horses.	Sheep.	Pigs.	Beef.	Mutton.	Pork.	Milk.			Rice.	Salt.	Sugar.	Tea.	
Per. hhd.	Per. gall.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per 100 lb.	Per Im. bushel.	Per head.	Per head.	Per head.	Per head.	Per head.	Per lb.	Per lb.	Per lb.	Per qt.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per gallon.
AUCKLAND—																									
Thames	90/	27/	1 1/2	7/	7/	7/	1 1/10	11/6	4/6	8	10/	12	15/	12/	5	4	6	4	2 1/2	1 1/6	3	1 1/6	5/6	15/-20/	
Paeroa...	80/	17/	1 1/2	9/	7/	7/	1 1/10	11/	5/9	6/10-10	10/	10-40	15/23/6	30/-60/	5	5	6	4	2 1/2	1 1/6	3	1 1/6	5/6	18/	
Coromandel	100/	27/	1 1/2	10/	7/	7/	1 1/10	11/	4/8	1-10	10/	5-40	10/-27/	80/-100/	3-8	3 1/2-6	6	4	2 1/2	1 1/6	3	1 1/6	5/6	26/	
Tauranga	120/	35/	1 1/2	10/	8/	8/	1 1/10	11/	4/8	8	10/	3-50	25/	25/	3-8	4-6	6	3	2 1/2	1 1/6	3	1 1/6	5/6	17/	
Te Aroha	80/	17/	1 1/2	9/	7/	7/	1 1/10	11/	5/9	6/10-10	10/	10-40	15/23/6	30/-60/	5	5	6	4	2 1/2	1 1/6	3	1 1/6	5/6	18/	
Waihi ..	85/	27/	1 1/2	10/	7/	7/	1 1/10	11/	4/8	2-10	10/	1/10-50	10/-28/	5/-60/	4-10	3 1/2-6	5-6	3	2 1/2	1 1/6	3	1 1/6	5/6	17/	
Puhipuhi	100/	30/	1 1/2	10/	8/	8/	1 1/10	11/6	4/8	3	10/	15	12/6	25/	4 1/2	5	5	3	2 1/2	1 1/6	3	1 1/6	5/6	14/	
MARLBOROUGH—																									
Blenheim	80/	30/	1 1/2	10/	8/	8/	1 1/10	10/6	4/6	7	10/	30	16/	35/	4 1/2	4 1/2	6	3	1	3	2	2	5/3	18/	
Havelock	70/	30/	1 1/2	10/	8/	8/	1 1/10	12/	5/	5	10/	30	17/	25/	5	4	5	4	2 1/2	1	3	2	6/	18/	
NELSON—																									
Wangapeka	100/	35/	1 1/2	9/	8/	8/	1 1/10	16/	5/6	6-10	10/	15-45	17/-23/	30/-70/	6	5	6	4	3	1 1/2	3	2	7/	21/	
Collingwood	98/4	23/3	1 1/2	8/	9/	9/	1 1/10	11/	4/9	8/10-4	10/	16	17/	20/	4 1/2	4 1/2	6	4	3	1 1/2	3	2	5/6	15/	
Takaka	90/	25/	1 1/2	10/	8/	8/	1 1/10	11/6	4/6	17/6 cwt.	10/	15-40	13/ fat	10/	6-8	6-8	6	4	3	1 1/2	3	2	6/	7/	
Inangahua	80/	25/	1 1/2	10/	8/	8/	1 1/10	13/	4/6	8	10/	20-60	15/	30/	6-8	6-8	6	4	3	1 1/2	3	2	6/	15/-27/	
Lyell	110/	26/	1 1/2	9/	9/	9/	1 1/10	15/6	7/	5/10	10/	20	19/	45/	6	7	7	6	3 1/2	2	3 1/2	2	6/	26/	
Murchison	90/	26/	1 1/2	10/	6/	6/	1 1/10	12/6	4/3	11	10/	20	20/	37/6	6	6	6	5	3	1 1/2	3	2	5/6	16/6	
Westport	90/	35/	1 1/2	10/	8/	8/	1 1/10	13/	5/	7/10	10/	35	23/	70/	6	6	6	6	3	1 1/2	3	2	6/	18/	
Charleston	112/6	25/	1 1/2	9/	8/	8/	1 1/10	16/	6/	7-12	5/	10-50	15/-30/	30/-80/	6	6	8	4	3	2	3	2	5/6-6/6	15/	
Ahaura																									
WESTLAND—																									
Stafford	100/	30/	1 1/2	10/	8/	8/	1 1/10	12/6-13/	5/6	8	5/	25	18/	40/	6	6	8	6	3	1	3	2	5/6-6/6	26/	
Waimea	85/	24/	1 1/2	10/	7/	7/	1 1/10	11/6	4/	7-8	10/	15-50	15/6	30/-35/	6-8	6-7	7	5	2 1/2	3	2	2/-3/6	5/6	12/	
Hokitika and Kanieri	108/	28/	1 1/2	10/	9/	9/	1 1/10	12/6	6/	10	10/	35	25/	50/	8	8	8	4	2 1/2	3 1/2	3 1/2	2	6/	7/	
Ross ..	40/ (18 gal.)	30/	1 1/2	10/	8/	8/	1 1/10	16/	6/6	10	10/	16-40	20/	20/	5 1/2	5 1/2	7	4	2 1/2	4	2 1/2	4	2/3-2/6	6/6	18/
Okarito	90/	26/	1 1/2	10/	8/	8/	1 1/10	12/6	4/6	3-9/15	10/	10-50	10/-31/	17/-70/	7	6	7	6	2 1/2	3	2	2	5/6	18/	
Greymouth	80/	25/	1 1/2	10/	9/	9/	1 1/10	12/	4/6	8/10-9	10/	10-50	20/	25/-60/	4-6	4-6	6	6	3	2	3	2	5/6-6/	10/	
Kumara																									
ORAGO—																									
Hindon	90/	25/	1 1/2	10/	8/	8/	1 1/10	16/	3/6	6-12	10/	12-40	13/-24/	25/	4-8	6	4	4	3 1/2	1 1/2	3 1/2	2	6/	21/	
Tuapeka	90/	25/	1 1/2	10/	8/	8/	1 1/10	12/6	3/6	6	10/	15-40	17/6	25/	6	6	6	3	1 1/2	3	1 1/2	3	5/6	21/	
Tapanni	100/	28/	1 1/2	10/	8/	8/	1 1/10	11/6	3/6	5/10	10/	25	15/	30/	5	5	5	4	1 1/2	3	1 1/2	3	5/6	21/	
Cromwell	93/	30/	1 1/2	10/	8/	8/	1 1/10	11/	3/6	8	10/	15-60	20/-27/	40/	5 1/2	5	5 1/2	4	1 1/2	3	1 1/2	3	5/9	18/	
Clyde																									
Alexandra	93/	30/	1 1/2	10/	8/	8/	1 1/10	12/	4/6	1-5	10/	5-45	7/-13/	60/	6	5	8	5	3	1 1/2	3	2	5/-7/	20/	
Roxburgh																									
Black's																									
Queenstown	90/	28/6	1 1/2	10/	8/	8/	1 1/10	10/	3/	3-4	10/	25-60	10/-12/	10/-60/	4-6	4-6	6	3	1	3	1	3	1/10	6/	
Arrow (Wakatipu Goldfield)	100/	23/	1 1/2	10/	8/	8/	1 1/10	11/	3/	3-5	10/	25-60	10/-15/	23/6	6	5 1/2	6	2	2 1/2	3	2	3	1/10	6/	
Mount Ida	102/	27/-42/	1 1/2	10/	8/	8/	1 1/10	6/6	4/	5-8	10/	10-45	17/-23/	50/-60/	5 1/2-7	5-6	6	4	3	2	3	2	1/6-2/4	5/3-8/	
Nenthorn	90/	35/	1 1/2	10/	8/	8/	1 1/10	15/	3/6	6-12	10/	10-45	11/-22/	17/-55/	7	6	6	4	4	2	3	2	6/6	18/-25/	
Waitaka	80/	28/	1 1/2	10/	8/	8/	1 1/10	13/	4/	7	10/	25-40	19/	40/	6	5	8	3	2 1/2	1	3	2	5/6	20/-36/	
Riverton and Orepuki	90/	28/	1 1/2	10/	8/	8/	1 1/10	11/6	3/6	5/10	10/	25	15/	30/	5	5	5	4	3	1	3	2	1/9	18/	
Gore ..	90/	35/	1 1/2	10/	8/	8/	1 1/10	11/6	3/6	6	10/	30	12/	20/	5	4	4	3	1	3	1	3	1/9	5/6	
Wyndham	90/	35/	1 1/2	10/	8/	8/	1 1/10	11/6	3/	6	10/	30	12/	20/	5	4	4	3	1	3	1	3	1/9	5/6	

No. 12.
TABLE showing the AVERAGE RATE of WAGES per WEEK for the Year ending 31st December, 1906.

District.	General Managers.	Legal Managers.	Mining Managers.	Engineers.	Engine-drivers.	Stokers.	Blacksmiths.	Carpenters.	Miners.	Labourers.	Boys.	Chinese.	Agricultural Labourers.	Domestic Servants.
AUCKLAND—														
Coromandel ..	£ s. d. 1 0 0	£ s. d. 1 0 0	£ s. d. £4 to £5	£ s. d. 4 0 0	£ s. d. 2 14 0	£ s. d. 2 8 0	£ s. d. 2 14 0	£ s. d. £3/14 to £3	£ s. d. £3/2 to £3/14	£ s. d. 2 8 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. ..	10/ to 15/
Thames ..	£ s. d. £1 to £2	£ s. d. £1 to £2	£ s. d. £3 to £5	£ s. d. £3 to £5	£ s. d. 2 14 0	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. £3/14 to £3	£ s. d. £3/2 to £3/14	£ s. d. 2 8 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. 1 10 0	12/
Te Aroha ..	£ s. d. 2 0 0	£ s. d. 2 0 0	£ s. d. £4 to £7	£ s. d. £3 to £6	£ s. d. £3/8 to £3	£ s. d. £3/2 to £3/14	£ s. d. 2 8 0	£ s. d. £3/14 to £3	£ s. d. £3/2 to £3/14	£ s. d. 2 8 0	£ s. d. £1/4 to £1/16	£ s. d. ..	£ s. d. 1 5 0	7/6 to 15/
Paeora ..	£ s. d. £1 to £2	£ s. d. £1 to £2	£ s. d. £4 to £10	£ s. d. £4 to £6	£ s. d. £3/10 to £3	£ s. d. £3/5 to £3/11	£ s. d. £3/14 to £3	£ s. d. £3/14 to £3	£ s. d. £3/8 to £3/10	£ s. d. £3 to £3/8	£ s. d. £1 to £3	£ s. d. ..	£ s. d. 10/ to 17/6	10/ to 15/
Tauranga ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 4 0 0	£ s. d. £3/10 to £3	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. £3/14 to £3	£ s. d. £3/8 to £3/10	£ s. d. £3 to £3/8	£ s. d. 10/ to 15/	£ s. d. ..	£ s. d. 20/ to 30/	8/ to 15/
Waikato ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 3 6 0	£ s. d. £3/10 to £3	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. £3/14 to £3	£ s. d. £3/8 to £3/10	£ s. d. £3 to £3/8	£ s. d. 1 16 0	£ s. d. ..	£ s. d. 20/ to 30/	10/ to 20/
Pahipahi ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. £3 to £3/12	£ s. d. ..	£ s. d. £3/16 to £3/8	£ s. d. ..	£ s. d. ..	£ s. d. 20/ to 30/	10/
MARLBOROUGH—														
Havelock ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 3 12 0	£ s. d. 2 14 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 2 8 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. 2 8 0	7/ to 15/
Blenheim ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. £4/10 to £5	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 2 17 0	£ s. d. 2 8 0	£ s. d. 10/ and found	£ s. d. ..	£ s. d. 25/ and found	..
NELSON—														
Reefton ..	£ s. d. 2 0 0	£ s. d. 2 0 0	£ s. d. 5 0 0	£ s. d. 5 0 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 3 10 0	£ s. d. 4 0 0	£ s. d. £3/17 to £3	£ s. d. 2 10 0	£ s. d. 1 16 0	£ s. d. ..	£ s. d. 1 5 0	15/
Collingwood ..	£ s. d. ..	£ s. d. ..	£ s. d. £3 to £10	£ s. d. £3/10 to £4	£ s. d. 3 0 0	£ s. d. £3/10 to £3	£ s. d. 3 6 0	£ s. d. 3 0 0	£ s. d. £3/17 to £3	£ s. d. 2 14 0	£ s. d. 19/ and found	£ s. d. ..	£ s. d. 2 10 0	9/
Takaka ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 2 14 0	£ s. d. 3 12 0	£ s. d. 2 8 0	£ s. d. 2 2 0	£ s. d. ..	£ s. d. ..	£ s. d. £1 and found	12/6 & found
Charleston ..	£ s. d. ..	£ s. d. ..	£ s. d. 4 0 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. 3 14 0	£ s. d. ..	£ s. d. 3 12 0	£ s. d. 2 8 0	£ s. d. 2 14 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. ..	12/6 & found
Westport ..	£ s. d. ..	£ s. d. ..	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 3 10 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 2 14 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. £1 and found	15/
Lyell and Murchison ..	£ s. d. ..	£ s. d. ..	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 3 10 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 2 8 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. £1/ to £1/5	15/
Ahaura ..	£ s. d. ..	£ s. d. ..	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 3 12 0	£ s. d. 3 12 0	£ s. d. 2 14 0	£ s. d. 2 2 0	£ s. d. ..	£ s. d. ..	£ s. d. 30/ and found	10/ to 15/
Wangapeka ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 2 2 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	10/ to 15/
WESTLAND—														
Wainaea and Stafford ..	£ s. d. 6 0 0	£ s. d. 5 0 0	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 3 15 0	£ s. d. 3 0 0	£ s. d. 3 10 0	£ s. d. 2 17 0	£ s. d. 2 8 0	£ s. d. 1 10 0	£ s. d. 1 0 0	£ s. d. 1 0 0	10/
Hokitika and Kanieri ..	£ s. d. 1 10 0	£ s. d. 1 10 0	£ s. d. £4 to £5	£ s. d. 4 0 0	£ s. d. 3 12 0	£ s. d. 3 0 0	£ s. d. 3 8 0	£ s. d. 3 18 0	£ s. d. 2 14 0	£ s. d. £3/8 to £3/14	£ s. d. 1 10 0	£ s. d. 1 16 0	£ s. d. 1 16 0	7/6 to 10/
Ross ..	£ s. d. 1 5 0	£ s. d. 1 5 0	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 3 10 0	£ s. d. 3 10 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 2 14 0	£ s. d. 1 10 0	£ s. d. ..	£ s. d. 2 10 0	90/
Kumara ..	£ s. d. 0 10 0	£ s. d. 0 10 0	£ s. d. 4 0 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 3 12 0	£ s. d. £3/10 to £3/12	£ s. d. 2 14 0	£ s. d. 1 10 0	£ s. d. 1 16 0	£ s. d. 2 2 0	10/ to 15/
Greymouth ..	£ s. d. £1 to £3	£ s. d. £1 to £3	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 0 0	£ s. d. 2 10 0	£ s. d. 3 15 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 2 14 0	£ s. d. 1 0 0	£ s. d. 15/ to 30/	£ s. d. 20/ to 30/	7/6 to 80/
Okarito ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 3 10 0	£ s. d. ..	£ s. d. ..	£ s. d. 4 4 0	£ s. d. 3 0 0	£ s. d. 2 14 0	£ s. d. ..	£ s. d. ..	£ s. d. 25/ and found	14/ and found
OTAGO AND SOUTHLAND—														
Hindon ..	£ s. d. 1 10 0	£ s. d. 1 10 0	£ s. d. £4 to £5	£ s. d. 2 0 0	£ s. d. 2 14 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. ..	£ s. d. £3/8 to £3/14	£ s. d. 2 2 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	10/ to 14/
Tuapeka ..	£ s. d. 12 0 0	£ s. d. £60 p.a.	£ s. d. 4 0 0	£ s. d. 4 0 0	£ s. d. 2 10 0	£ s. d. 2 2 0	£ s. d. 2 14 0	£ s. d. 3 0 0	£ s. d. 2 2 0	£ s. d. 2 2 0	£ s. d. 0 10 0	£ s. d. 1 0 0	£ s. d. 1 0 0	10/ to 14/
Tapanui ..	£ s. d. ..	£ s. d. ..	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 2 15 0	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. 3 0 0	£ s. d. 2 8 0	£ s. d. 2 5 0	£ s. d. 1 0 0	£ s. d. 1 5 0	£ s. d. 1 2 6	13/6
Cromwell ..	£ s. d. £1 to £4	£ s. d. £1 to £4	£ s. d. £4/10 to £6	£ s. d. 4 10 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. £3 to £3/12	£ s. d. £3 to £3/10	£ s. d. 3 0 0	£ s. d. £3/8 to £3/14	£ s. d. 15/ to £1/10	£ s. d. £1 to £1/10	£ s. d. 15/ to 35/	6/ to 20/
Clyde ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 3 0 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 2 8 0	£ s. d. 10/	£ s. d. 1 5 0	£ s. d. 25/ and found	19/6 to 15/
Alexandra ..	£ s. d. 5 0 0	£ s. d. 1 10 0	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 3 0 0	£ s. d. 2 8 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	19/6 to 15/
Black's ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. ..	10/ to 15/
Roxburgh ..	£ s. d. 5 0 0	£ s. d. 4 0 0	£ s. d. 4 0 0	£ s. d. 4 0 0	£ s. d. 2 14 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. 3 12 0	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. 10/ to 15/	£ s. d. 15/ to £1	£ s. d. 17/6 to £1	10/ to 15/
Waikato ..	£ s. d. 5 0 0	£ s. d. ..	£ s. d. 4 0 0	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. ..	£ s. d. 2 14 0	£ s. d. 3 8 0	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. 10/ to 25/	£ s. d. 1 5 0	£ s. d. 25/ and found	10/ to 15/
Orepuki and Riverton ..	£ s. d. ..	£ s. d. ..	£ s. d. £4 to £7	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 2 10 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 2 10 0	£ s. d. 2 8 0	£ s. d. 10/ to 25/	£ s. d. £1/5 to £1/10	£ s. d. 1 5 0	8/ to 20/
Arrow ..	£ s. d. ..	£ s. d. ..	£ s. d. £4 to £7	£ s. d. 4 0 0	£ s. d. 3 10 0	£ s. d. 2 10 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 2 10 0	£ s. d. 2 8 0	£ s. d. 10/ to 25/	£ s. d. £1/5 to £1/10	£ s. d. 1 5 0	8/ to 20/
Queenstown ..	£ s. d. 5 0 0	£ s. d. ..	£ s. d. 4 0 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 2 8 0	£ s. d. £3/2 to £3/8	£ s. d. 10/ to 15/	£ s. d. £1 and found	£ s. d. 20/ to 25/	7/ to 12/6
Mount Ida ..	£ s. d. ..	£ s. d. ..	£ s. d. 4 0 0	£ s. d. 2 14 0	£ s. d. 2 8 0	£ s. d. 2 8 0	£ s. d. 2 14 0	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. 2 2 0	£ s. d. ..	£ s. d. ..	£ s. d. 1 5 0	10/
Gore ..	£ s. d. ..	£ s. d. ..	£ s. d. 4 0 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 2 8 0	£ s. d. 1 0 0	£ s. d. ..	£ s. d. 2 8 0	15/
Wyndham ..	£ s. d. ..	£ s. d. ..	£ s. d. 3 15 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 3 0 0	£ s. d. 3 0 0	£ s. d. ..	£ s. d. 2 8 0	£ s. d. ..	£ s. d. ..	£ s. d. ..	15/

No. 13.

NUMBER of MACHINES employed in ALLUVIAL and QUARTZ MINING, and the VALUE thereof, for the Year ending 31st December, 1906.

District.	Machinery employed in Alluvial Mining.													Machinery employed in Quartz-mining.										Approximate Value of all Mining Plant included in this Return.
	Steam-engines employed winding, crushing, &c.		Puddling-machines.	Whims.	Whips or Pulleys.	Sluices, Toms, and Sluice-boxes.	Water-wheels.	Hydraulic Hoses.	Pumps.	Dredges.	Quicksilver and Compound Cradles.	Derricks.	Stamp-heads or rubbing Cement.	Boring-machines.	Steam-engines employed winding, crushing, &c.		Crushing-machines.	Stamp-heads.	Water-wheels.	Whims.	Whips or Pulleys.	Derricks.	Bordans.	
	No.	Aggregate h.p.													No.	Aggregate h.p.								
AUCKLAND—																								£
Paeroa	16	1,343	11	305	10	..	..	..	..	149,710
Coromandel	24	706	18	168	5	..	..	..	..	94,896
Thames	29	1,297	31	472	25	..	..	..	149	181,306
Te Aroha	10	..	..	..	..	..	2,500
Waiki	51	3,134	11	375	16	..	..	..	..	..
Puhipuhi..
Totals	120	6,480	66	1,830	56	..	..	..	149	428,412
MARLBOROUGH—																								
Wakamarina ..	}	16	..	1	..	1	..	..	..	..	..	..	2	20	1	..	..	..	..	5,000
Cullen's Creek ..																								
Waikakaho ..																								
Blenheim ..																								
Totals	16	..	1	..	1	..	..	..	..	..	..	2	20	1	..	..	..	..	5,000
NELSON—																								
Okarito	3	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..
Wangapeka	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1,000
Collingwood	3	..	..	5	..	1	..	1	..	1	1	5	2	28	1	..	..	..	40,000
Takaka
Inangahua	7	..	..	..	..	..	..	..	..	..	..	..	..	200,000
Charleston	18	..	..	..	..	..	..	..	..	..	360
Lyell	65	5	5	..	..	..	..	..	..	..	..	..	2	30	2	..	..	..	27,000
Murchison	315	1	10	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	25,000
Westport	35	5	20	..	..	..	..	17	..	..	..	..	4	14	3	..	..	..	6,500
Ahauro	750	..	2,500	..	14	..	1	..	1	..	..	..	2	11	2	..	..	..	84,000
Totals	1,168	16	2,546	..	30	..	2	35	2	21	505	25	333	11	4	..	..	..	388,860
WESTLAND—																								
Stafford	3	6	6,000	4	200	3	1	..	2	..	..	..	..	..	..	..	..	..	..	38,000
Ross	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1,000
Hokitika and Kanieri	62	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	4,500
Greymouth	183	..	490	26	1	13	..	..	3	..	..	..	..	..	..	..	..	..	43,971
Kumara	27	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	27,500
Totals	3	6	6,272	4	690	30	7	13	2	..	8	..	..	..	..	..	..	..	..	114,971
OTAGO AND SOUTH-LAND—																								
Taparui	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3,000
Hindon	2	16	1	5	..	..	..	..	..	710
Tuapeka	400	..	45	..	10	..	..	..	..	2	16	3	15	2	..	..	..	..	60,000
Cromwell	12	..	23	..	..	..	..	4	30	4	30	1	..	..	..	..	100,000
Clyde and Alexandra
Roxburgh	800	1	27	..	45	..	..	..	..	..	..	..	..	..	1	1	..	..	315,800
Black's
Orepuki, Waiau, and Roundhill Preservation ..	3	200	..	..	..	170	..	130	12	..	..	..	..	1	1	14	2	10	4	2	..	11	..	..
Waikaia (Switzers)	140	..	26	..	18	..	..	..	..	..	..	..	..	..	..	..	..	..	72,000
Arrow ..	1	4	..	..	..	20	..	12	2	2	..	1	..	1	1	4	4	40	..	..	..	1	..	12,000
Queenstown	400	..	50	2	1	..	..	..	1	8	5	42	..	..	..	..	..	..	30,000
Naseby
Kyeburn and Clarke's
Hamilton's and Sowburn
Hyde and Fullerton's
Macrae's, Strath Taieri, and Shag Valley	1	..	..	165	..	37,008	..	3	..	33	..	..	5	80	8	65	4	1	..	..	5	101,875
Serpentine
St. Bathans, Ida Valley, &c.
Gore	37	..	..	..	..	..	..	..	..	..	..	..	..	..	129,500
Totals	..	4	204	1	..	2,095	1	37,310	16	140	..	34	..	2	16	168	27	207	11	4	1	1	16	824,385
SUMMARY.																								
Auckland	120	6,480	66	1,830	56	..	..	..	149	428,412
Marlborough	16	..	1	..	1	..	..	..	..	..	..	2	20	1	..	..	..	..	5,001
Nelson	1,168	16	2,546	..	30	..	2	35	2	21	505	25	333	11	4	..	..	..	388,860
Westland	6,272	4	690	30	7	13	2	..	8	..	..	..	..	..	..	..	..	..	114,971
Otago	4	204	1	..	2,095	1	37,310	16	140	..	34	..	2	16	168	27	207	11	4	1	1	16	824,385
Totals	..	4	204	1	3	9,551	21	40,547	46	178	13	38	35	7	157	7,153	120	1,890	79	8	1	1	165	1,756,639

No. 14.

TABLE showing approximately the NUMBER, DESCRIPTION, and VALUE of the WATER-RACES, TAIL-RACES, DAMS, RESERVOIRS, and GROUND-SLUICING in Operation during the Year ending 31st December, 1906.

District.	Water-races.				Tail-races.		Dams.		Reservoirs.		Ground-slucies.		Approximate Total Cost.
	No.	Length in Miles.	No. of Sluice-heads.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	No.	Approximate Cost.	
AUCKLAND—													
Coromandel ..	6	6	21	£ 4,500	..	£ ..	3	£ 510	3	£ 50	..	£ ..	£ 5,060
Thames..	19	25	160	58,000	7	360	70	770	2	5,000	..	..	64,130
Te Aroha ..	3	2	13	2,500	..	..	2	200	..	..	..	..	2,700
Paeroa ..	168	199	2,468	122,466	1	1,000	35	5,000	3	3,000	..	..	131,466
Waikato ..	17	88	379	..	..	..	12	..	..	..	..	..	..
Totals ..	213	270	3,041	187,466	8	1,360	122	6,480	8	8,050	..	..	208,356
MARLBOROUGH—													
Blenheim ..	26	18	158	..	8	..	6	..	..	..	..	..	..
Havelock ..	16	21	47	3,685	1	20	1	50	..	..	..	..	3,755
Totals ..	42	39	205	3,685	9	20	7	50	..	..	..	..	3,755
NELSON—													
Wangapeka, Baton, and Sherry ..	5	4½	22	500	2	100	..	..	..	..	3	90	690
Collingwood ..	113	186½	1,306	140,336	69	7,795	78	11,020	..	..	8	..	159,151
Inangahua ..	106	100	1,060	50,000	30	10,000	41	2,000	..	..	..	..	62,000
Charleston ..	26	150	280	2,900	27	186	34	3,860	..	..	..	..	6,946
Westport ..	260	173	1,365	9,260	180	22,437	418	14,345	..	..	..	..	46,042
Lyell ..	96	88	212	6,700	23	2,200	19	1,950	..	..	..	..	10,850
Murchison ..	250	193	1,150	13,000	68	2,500	56	3,550	..	..	..	..	19,050
Ahaura ..	225	450	1,750	170,000	95	19,000	85	2,800	..	..	..	..	191,800
Motueka ..	7	4	23	..	4	..	5	..	..	..	1	..	..
Takaka ..	8	5½	47	2,300	6	100	8	160	..	..	6	..	2,560
Totals ..	1,096	1,309½	7,115	394,996	504	64,318	744	39,685	..	..	18	90	499,089
WESTLAND—													
Hokitika & Kanieri ..	337	230½	595	161,930	136	2,865	321	3,852	..	..	..	..	168,647
Ross ..	7	25	65	40,000	5	2,000	12	6,000	..	..	8	560	48,560
Kumara ..	30	26½	236	16,190	33	16,865	..	..	..	..	..	..	33,055
Greymouth ..	535	460	1,978	26,382	339	10,480	1,040	11,550	..	..	27	580	48,942
Okarito ..	13	9½	185	5,169	..	..	1	50	..	..	..	..	5,219
Stafford ..	250	315	590	24,000	200	5,000	300	5,000	6	750	100	1,000	35,750
Totals ..	1,172	1,065½	3,649	273,621	1,203	37,210	1,674	26,452	6	750	135	2,140	340,173
OTAGO AND SOUTH-LAND—													
Hindon ..	25	25	100	5,000	5	70	3	351	..	..	5	81	5,452
Tuapeka ..	277	880	1,750	17,000	270	7,000	326	9,500	..	..	..	..	33,500
Tapanui ..	2	3½	8	185	..	..	..	..	..	..	..	..	185
Clyde, Alexandra, Black's, and Roxburgh ..	541	1,623	1,945	81,150	275	10,000	160	15,000	2	8,500	..	..	114,650
Arrow ..	174	231	741	16,576	130	4,920	24	2,225	..	..	..	..	23,721
Cromwell ..	584	1,488	2,344	106,079	313	14,690	247	11,370	..	..	..	..	132,139
Waikaka ..	235	436	850	47,000	200	2,000	127	3,000	..	..	8	500	52,500
Riverton and Orepuki ..	160	237½	850	35,531	27	4,790	56	1,882	..	..	..	..	42,303
Queenstown ..	157	185½	774	52,720	162	21,030	424	2,235	..	..	..	..	75,985
Naseby ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kyebrum & Clarke's ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hamilton's and Sowburn ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hyde & Fullerton's ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Macrae's, Strath Taieri, and Shag Valley ..	1235	3,143½	4,053½	43,316	675	17,270	314	13,940	..	..	..	..	74,526
Serpentine ..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Bathans and Ida Valley ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wyndham ..	4	8	21	..	..	..	..	..	..	..	..	..	..
Gore ..	1	2	3	100	..	..	..	..	..	..	..	..	100
Totals ..	3,395	8,257½	13,448	404,657	2,057	81,770	1,671	59,503	2	8,500	13	531	554,961

SUMMARY.

Auckland ..	213	270	3,041	187,466	8	1,360	122	6,480	8	8,050	..	..	208,356
Marlborough ..	42	39	205	3,685	9	20	7	50	..	..	..	..	3,755
Nelson ..	1,096	1,309½	7,115	394,996	504	64,318	744	39,685	..	..	18	90	499,089
Westland ..	1,172	1,065½	3,649	273,621	1,203	37,210	1,674	26,452	6	750	135	2,140	340,173
Otago ..	3,395	8,257½	13,448	404,657	2,057	81,770	1,671	59,503	2	8,500	13	581	554,961
Totals ..	5,918	10,942½	27,458	1,264,425	3,781	184,678	4,218	132,170	16	17,800	166	2,761	1,601,334

No. 15.

RETURN of CASES in the WARDENS' COURTS, and COSTS AWARDED, for the Year ending 31st December, 1906.

District.	Number of Mining Disputes adjudicated on.	Aggregate Amount of Value.		Amount of Costs awarded.	Cases wherein Judgment has decreed Specific Performance.
		Claimed.	Recovered.		
AUCKLAND—		£ s. d.	£ s. d.	£ s. d.	
Coromandel	20	55 0 0	55 0 0	1 4 0	..
Thames	22	782 17 2	54 2 6	28 18 8	..
Te Aroha	1	7 10 0	7 10 0	2 18 0	..
Paeoro	10	77 18 7	68 18 0	9 17 0	..
Waihi	10	54 13 0	28 8 0	26 5 0	2
MARLBOROUGH—					
Blenheim	1	..	..	..	..
NELSON—					
Inangahua	16	1,525 16 1	194 10 5	95 11 0	6*
Collingwood	3	2 12 6	2 12 6	2 11 0	..
Lyell and Murchison	24	636 11 10	359 6 4	58 19 6	..
Westport	14	324 10 0	129 10 0	42 15 4	..
Charleston	6	2 15 0	..	3 18 0	..
Takaka	1	..	..	3 8 0	1
Wangapeka .. .. .	..	..	..	..	..
WESTLAND—					
Kumara	5	26 1 3	12 1 3	4 17 0	1†
Greymouth	14	48 2 4	28 0 7	32 13 0	..
Hokitika and Kanieri	8	..	..	6 11 0	..
Stafford	7	109 6 0	22 6 6	8 1 0	69‡
Ross	4	..	..	2 7 0	..
Ahaura	29	548 15 0	209 1 0	38 1 0	..
Okarito .. .. .	..	..	..	..	..
OTAGO AND SOUTHLAND—					
Tapanui .. .. .	..	..	..	..	..
Hindon .. .. .	..	..	..	..	..
Tuaspeka	10	128 0 0	3 0 0	4 8 0	..
Oromwell	4	368 14 11	18 15 0	9 16 0	2
Roxburgh	22	2,124 6 10	54 4 4	30 0 8	9
Black's					
Clyde and Alexandra	5	450 0 0	100 0 0	19 16 4	..
Waikata	7	185 16 8	90 16 8	11 12 6	..
Orepuki, Longwood, and Riverton	2	..	..	..	1
Arrow (Wakatipu Goldfield)	9	51 2 8	26 18 0	8 8 6	1
Queenstown	2	§	275 0 0	89 11 0	..
Gore	10	44 8 9	24 16 8	27 19 0	6
Mount Ida .. .. .	..	..	..	..	..
Totals	261	7,504 12 9	1,757 12 4	565 2 6	98

* 4, forfeit of mining privilege; 1, dissolution of partnership; 1, defendant ordered not to trespass on plaintiff's small area.
† Title ordered to be given up for cancellation. ‡ Mining application received. § Indefinite amount.

No. 16.

RETURN of the NUMBER of MINING LEASES or LICENSES in Force on the 31st December, 1906,
the EXTENT of GROUND LEASED or held under LICENSE, and RENTAL per ANNUM.

Mining Leases.

District.	No.	Gross Acreage.			Rental per Annum.		
		A.	R.	P.	£	s.	d.
AUCKLAND—							
Coromandel	104	3,799	2	5	335	5	6*
Thames	180	7,534	3	37	1,439	10	6
Te Aroha	17	925	2	10	212	0	0
Paeora	68	3,891	3	2	975	5	0
Puhipuhi	23	2,129	0	0	84	5	0
Waihi	78	6,126	2	22	1,711	14	0
MARLBOROUGH—							
Havelock	4	106	2	2	41	12	6
Blenheim	11	455	0	34	137	15	0
NELSON—							
Collingwood	5	2,075	3	32	360	4	0
Inangahua	164	5,644	3	16	960	6	9†
Charleston	13	110	0	0	21	8	9
Ahaura	200	3,000	0	0	1,000	0	0
Lyell	17	738	1	27	202	10	0
Murchison	33	967	1	15	310	9	0
Westport	20	441	3	21	114	2	6
Motueka	2	31	0	0	11	12	6
Nelson	3	225	0	0	84	15	0
WESTLAND—							
Kumara	49	633	1	10	180	7	6
Hokitika and Kaiteri	63	822	2	6	210	17	6
Greymouth	103	15,295	2	35	1,801	8	8
Ross	20	563	2	25	199	17	6
Okarito	12	521	0	0	155	14	6
OTAGO AND SOUTHLAND—							
Cromwell	103	2,929	0	0	746	14	11
Wyndham	5	108	1	22	9	12	6
Waikaia	50	1,522	0	0	375	0	0
Black's	113	4,683	0	0	1,381	10	0
Clyde and Alexandra							
Roxburgh	123	1,978	0	13	551	8	3
Naseby							
Arrow (Wakatipu Goldfield)	555	2,507	2	10	154	11	0
Queenstown	543	4,092	1	18	310	17	6
Riverton and Orepuki	60	2,227	0	8	287	14	0
Totals	2,691	76,087	1	10	14,368	4	10

* 1,627 acres 3 roods 26 perches; no rent payable; freehold land. † 5 acres under M.R.

STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Mining Companies Acts, 1891, 1894, and 1900

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid up per Share.		Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
						£ s. d.	£				Quantity.	Value.			
AUCKLAND DISTRICT.															
Auckland Gold-mining Co. (Ltd.)	7/7/05	5,000	1,875	..	100,000	0 0 4½	..	£	167	12	Os.	10,682	10,140	..	£ 39
Bonanza Gold-mining Co. (No Liability)	22/10/06	10,000	1,000	500	100,000	6d. & 3d.	..	..	126	3	..	..	270	..	..
Champion Mines (Ltd.)	5/12/05	6,750	2,250	8,250	100,000	0 1 0	..	..	153	12	..	..	1,995	..	28
Comatook United Gold-mining Co. (Ltd.)	2/3/06	12,750	2,571	2,250	85,000	3/ & 1/1	113	..	81	5	..	..	1,501	..	654
Comatook Big Reefs (Ltd.)	23/10/05	397	397	..	2,686	0 4 0	..	..	125	..	31	58	743	..	..
Coromandel Gold-mining Co. (Ltd.)	17/8/04	5,000	1,888	250	100,000	0 0 5	..	..	156	..	23	46	2,071	..	78
Coronation Gold-mining Co. (Ltd.)	12/8/02	24,937	18,688	5,250	249,567	0 3 0	144	..	318	45	2,778	6,772	27,875	..	1,640
Golden Cross Gold-mining Co. (Ltd.)	13/11/06	9,350	779	..	93,500	0 0 2	..	..	75	2	..	..	812	..	596
Halcyon Gold-mining Co. (Ltd.)	31/7/06	5,000	1,000	500	100,000	6d. & 3d.	..	..	164	5	..	..	..	..	..
Hardy's Mines (Ltd.)	6/5/04	24,833	14,539	10,275	49,665	0 10 0	..	..	70	1	491*	1,225	21,015	..	6
Hauraki Freeholds (Ltd.)	25/1/99	20,000	1,275	18,725	100,000	0 3 0	..	..	391	..	1,378	4,217	5,639	..	29
Huanui Gold-mining Co. (Ltd.)	30/6/05	1,640	650	600	16,400	0 1 3	..	..	31	2	..	..	390	..	150
Kapowai Gold-mining Co. (Ltd.)	24/11/06	10,500	1,625	4,000	105,000	0 0 6	..	68	170	8	..	..	1,465	..	178
Kiri Kiri Mines (Ltd.)	17/5/05	9,865	1,752	2,500	93,650	2/ & 10d.	..	..	75	10	16	42	2,802	..	186
Kurauui Gold-mining Co. (Ltd.)	12/9/95	22,394	10,748	3,450	89,575	0 3 0	..	358	117	6	..	985	11,089	..	..
Kurauui Gold-mining Co. (Ltd.)	24/4/06	5,000	1,000	1,000	100,000	0 0 3	..	..	96	4	1,753	5,233	10,923	..	38
Magnet Gold-mining Co. (Ltd.)	9/4/08	5,132	3,614	1,500	102,637	0 1 0	..	31	215	6	266	3,856	8,678	..	1,162
Mahara Royal Gold-mining Co. (Ltd.)	15/6/08	10,000	1,867	8,750	100,000	1/6 & 11d.	216	..	95	16	..	2,880	11,917	..	..
Maori Land Gold-mining Co. (Ltd.)	..	..	..	..	97,028	0 2 4½	..	..	125	7	..	..	..	..	..
May Queen Extended Gold-mining Co. (No Liability)	12/11/96	15,000	9,482	..	..	..	..	..	..	..	..	..	..	..	..
Moanatalari Extended Gold-mining Co. (Ltd.)	10/8/05	2,602	1,081	2,398	100,000	0 1 5	53	..	283	2	2	5	1,605	..	7
New Bunker's Hill Gold-mining Co. (Ltd.)	22/12/05	10,000	1,000	..	80,000	0 0 3	49	..	175	5	..	..	1,774	..	32
New Dart Gold-mining Co. (Ltd.)	23/10/06	5,000	2,734	417	100,000	6d. & 8d.	612	..	128	7	..	..	2,855	..	378
New Eclipse Gold-mining Co. (Ltd.)	9/9/08	10,000	5,000	5,000	100,000	0 1 0	..	..	169	..	1,424	4,024	7,594	1,250	63
New Four-in-Hand Gold-mining Co. (Ltd.)	30/6/98	24,592	1,931	23,500	131,847	5/ & 1/	..	..	198	3	6,543	19,054	21,063	4,500	908
New Maroto Gold-mining Co. (Ltd.)	8/10/04	10,000	3,860	2,500	200,000	0 0 8	110	..	24	4	2,046	448	5,489	..	29
New May Queen Gold-mining Co. (Ltd.)	13/10/04	5,400	3,150	..	108,000	0 0 7	..	..	275	43	4,006	11,894	11,887	..	177
New Moanatalari Gold-mining Co. (Ltd.)	6/6/04	5,000	3,511	..	100,000	8d. & 9d.	239	..	254	5	651	1,796	7,986	..	279
New Monowai Gold and Silver Mines (Ltd.)	4/10/04	7,500	6,250	..	100,000	0 1 3	..	..	175	10	..	..	6,307	..	98
New Occidental Gold-mining Co. (Ltd.)	7/9/05	7,000	1,268	575	63,000	0 0 7	130	..	96	2	..	..	948	..	..
New Plymouth Petroleum Co. (Ltd.)	14/8/06	7,500	3,108	2,500	1,500	3 0 0	1,392	..	88	..	781	2,254	323	..	8,100
New Saxon Gold-mining Co. (Ltd.)	5/5/04	5,000	3,333	..	100,000	0 0 8	..	..	215	6	..	..	4,878	..	183
New Sylvia Gold-mining Co. (Ltd.)	24/10/05	10,000	2,175	625	100,000	6d. & 1d.	116	..	168	6	..	741	3,049	..	37
New Una Gold-mining Co. (Ltd.)	10/9/08	4,341	2,794	239	57,874	0 1 1	83	..	89	4	275	..	3,245	..	17
New Waitekauri Gold-mining Co. (Ltd.)	12/9/06	12,500	650	1,500	92,566	3d. & 6d.	350	..	72	2	..	..	450	..	1,250
Old Alburnia Gold-mining Co. (Ltd.)	25/7/08	11,000	9,167	8,000	110,000	0 1 8	..	..	235	90	45	136	13,816	..	126
Old Hauraki Gold-mining Co. (Ltd.)	31/8/08	12,500	4,500	..	100,000	0 1 0	..	..	119	2	1,652	5,038	14,862	1,250	100
Old Kapanga Gold-mining Co. (Ltd.)	8/9/06	7,800	2,099	100	104,000	4d. & 6d.	401	..	80	8	..	..	1,815	..	2,181
Omahu Mines (Ltd.)	28/8/05	8,365	3,065	5,300	41,825	0 2 0	..	..	105	1	..	442	3,869	..	513
Pride of Waikato Gold-mining Co. (Ltd.)	15/1/07	50,000	2,500	1,250	100,000	0 0 9	..	..	250	..	..	..	2,046	..	20
Rising Sun Gold-mining Co. (No Liability)	16/10/95	18,000	5,091	1,900	91,250	0 1 4	353	..	140	5	8,273	9,023	9,685	..	218
Royal Oak Gold-mining Co. (Ltd.)	22/8/04	12,500	6,375	6,875	100,000	..	..	..	41	3	..	..	99	..	25
Scandinavian Gold-mining Co. (Ltd.)	8/10/06	4,268	214	625	56,900	6d. & 2d.	53	..	58	..	119	325	1,172	..	..
Southern Queen Gold-mining Co. (Ltd.)	8/2/06	4,260	1,181	625	85,000	6d. & 5d.	69	..	129	8	..	..	1,172	..	286
Southern Queen Gold-mining Co. (Ltd.)	5/12/06	6,800	2,000	1,400	136,000	0 0 6	..	..	113	8	..	..	130	..	280
Southern Queen Gold-mining Co. (Ltd.)	8/10/08	15,000	6,21	..	200,000	1/6 & 5d.	105	..	122	8	2,231	368	7,066	..	..
Taihoa Gold-mining Co. (Ltd.)	11/10/06	1,250	1,250	..	100,000	0 0 8	855	..	86	4	..	..	806	..	..
Tairua Broken Hills Gold-mining Co. (Ltd.)	12/7/99	14,560	14,550	..	14,560	0 2 0	..	..	196	40	38,466	70,575	66,889	..	288

STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Mining Companies Acts, 1891, 1894, and 1900—continued.

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	Value of Shares given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid up per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
AUCKLAND DISTRICT—continued.														
Temple Bar Gold-mining Co. (Ltd.)	1/11/06	£ 15,000	£ 606	£ 750	78,450	6d. & 3d.	..	102	7	Oz.	£	224	£	25
Thames Gold-mining Co. (Ltd.)	16/12/06	7,500	6,229	..	150,000	9d. & 11d.	646	229	8	54	163	5,999	..	759
Trafalgar Gold-mining Co. (Ltd.)	20/2/06	9,900	1,096	250	100,000	0 0 3d.	112	163	4	..	..	1,139	..	92
Vanguard Gold-mining Co. (Ltd.)	6/7/06	25,600	9,969	192	99,000	1 0 11	58	122	1	..	..	3,994	..	211
Victoria Gold-mining Co. (No Liability)	2/9/90	6,417	19,876	1,600	110,829	0 4 0	..	256	8	..	14,667	81,857	..	..
Waikahi Beach Gold-mining Co. (No Liability)	7/4/06	25,000	6,085	..	140,000	0 0 11	392	228	18	..	..	5,870	..	503
Waikahi Consolidated (Ltd.)	23/3/00	12,000	2,708	15,000	100,000	0 8 3d.	279	142	20	..	..	9,011	..	168
Waikahi Discovery Gold-mining Co. (Ltd.)	17/11/05	149,967	1,928	1,125	120,000	5d. & 6d.	178	101	..	..	..	1,294	..	14
Waikahi Extended Gold-mining Co. (Ltd.)	13/8/95	25,000	25,001	5,498	149,967	0 4 1d.	431	516	21	..	..	25,751	..	672
Waikahi Gladstone Gold-mines (Ltd.)	29/5/06	5,000	417	12,500	100,000	0 0 1	..	22	3	..	..	313	..	26
Waikahi Standard Gold-mining Co. (Ltd.)	23/3/05	15,000	2,308	2,500	100,000	0 0 0 1/2	..	28	..	..	..	174	..	6
Waimangu Gold-mining Co. (Ltd.)	1/12/04	4,821	768	1,250	146,750	0 0 2	..	181	..	..	138	1,867	..	..
Waioatahi East Gold-mining Co. (Ltd.)	16/2/06	18,000	15,000	..	96,429	6d. & 4d.	6	37	2	..	490,676	210,790	274,800	630
Waioatahi Gold-mining Co. (Ltd.)	1/8/71	4,250	1,219	500	240,000	0 1 3	..	481	177	..	..	654	..	10
Waioatahi Gold-mining Co. (No Liability)	19/8/06	819,181	257,972	168,294	86,000	6d. & 4 1/2d.	..	175	9	..	..	1,068	..	..
Totals ..	..	..	..	..	6,275,445	..	7,442	9,487	633	74,285	668,102	618,697	281,800	19,355
WEST COAST.														
Addison's Long Tunnel Gold-mining Co. (Ltd.)	24/9/98	1,500	1,409	88	1,500	1 0 0	8	24	4	2,067	8,168	8,664	828	..
Bellevue Gold-dredging Co. (Ltd.)	17/10/02	3,400	2,890	1,000	8,400	1 0 0	..	10	9	1,880	5,415	7,627	..	3,754
Bignell's No Town Gold-dredging Co. (Ltd.)	10/4/00	9,000	4,840	4,160	9,000	1 0 0	..	133	9	8,688	14,188	15,919	2,700	..
Big River Gold-mining Co. (Ltd.)	11/4/91	12,000	11,475	..	24,000	0 9 9	..	61	18	27,798	111,845	75,546	49,699	250
Blackwater River Gold-dredging Co. (Ltd.)	27/4/00	9,475	5,892	8,000	9,475	0 18 0	..	92	11	6,518	26,001	27,863	7,810	..
Britannia Gold-mining Co. (Ltd.)	8/9/99	10,000	1,984	7,160	20,000	0 7 1 1/2	..	22	13	4,177	15,813	14,281	8,842	85
Caledonian United Gold-mining Co. (Ltd.)	4/7/06	4,550	368	200	19,000	0 0 6 1/2	199	69	6	..	..	583	..	274
Craig's Freehold Gold-dredging Co. (Ltd.)	20/8/00	6,500	4,205	2,500	9,000	0 14 0	253	116	10	1,281	5,124	5,148	..	2,208
Garden Gully Gold-mining Co. (Ltd.)	8/8/01	18,918	8,678	9,318	23,230	Various	743	231	1	38	126	8,559	..	272
Horse Terrace Sluicing Co. (Ltd.)	2/8/04	5,000	3,000	2,000	5,000	1 0 0	..	16	6	573	2,819	5,608	..	1,138
Keep-it-Dark Quartz-mining Co. (Ltd.)	2/8/74	20,000	6,208	10,000	20,000	0 16 2 1/2	..	47	54	108,644	399,317	262,375	154,667	55
Macleod's Terrace Sluicing and Water-dredging Co. (Ltd.)	4/4/03	16,645	10,478	..	16,645	1 0 0	173	37	8	84	180	10,829	..	228
Mineral Belt Copper-mining Co. (Ltd.)	12/11/03	16,230	4,555	10,000	16,230	1 0 0	..	54	..	..	..	4,598	..	30
Minerva Gold-mining Co. (Ltd.)	24/2/90	13,000	6,844	400	17,285	0 6 4 1/2	..	17	1	821	2,947	11,245	..	28
Mont d'Or Gold-mining and Water-race Co. (Ltd.)	25/7/82	12,000	10,800	..	12,000	0 18 0	..	32	14	30,680	119,843	87,590	42,000	..
Montgomery Sluicing Co. (Ltd.)	8/1/06	3,000	8,000	..	3,000	1 0 0	..	48	6	63	268	1,607	..	101
Nelson Creek Gold-dredging Co. (Ltd.)	1/7/99	10,929	8,429	2,500	10,929	1 0 0	..	92	7	13,025	51,115	47,721	23,375	750
New Feddersen Gold-dredging Co. (Ltd.)	1/8/04	2,313	2,313	..	4,625	0 10 0	..	19	8	2,092	8,202	10,472	1,272	246
No Town Creek Gold-dredging Co. (Ltd.)	9/8/00	8,500	8,500	3,500	12,000	1 0 0	..	180	10	2,852	41,369	59,369	16,800	206
Parapara Hydraulic Sluicing and Mining Co. (Ltd.)	18/6/92	50,600	26,210	20,000	40,600	20/12/5/	150	63	10	8,391	32,223	59,369	..	..
State River Sluicing Co. (Ltd.)	26/7/00	14,875	14,842	1,200	14,875	1 0 0	83	85	..	1,437	..	18,840	..	206
Stafford Sluicing Co. (Ltd.)	17/5/05	289	289	1,784	2,023	1 0 0	..	7	7	1,516	5,887	4,665	405	..
Takaka Sluicing Co. (Ltd.)	28/1/01	5,995	5,995	3,725	9,120	1 0 0	..	44	10	8,686	13,843	14,740	4,104	23
Totals ..	..	248,104	151,984	82,480	302,927	..	1,559	1,499	217	223,701	863,987	733,769	307,002	9,844

STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Mining Companies Acts, 1891, 1894, and 1900—continued.

Name of Company.	Date of Registration.	Subscribed Capital.	Amounts of Capital actually paid up.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid up per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Oz.	£				Quantity.	Value.
OTAGO DISTRICT (INCLUDING SOUTHLAND).														
Alexandra Eureka Gold-dredging Co. (Ltd.)	14/11/99	12,000	..	12,000	12,000	£ s. d.	..	38	8	9,569	37,054	21,598	15,450	136
Alexandra Lead Gold-dredging Co. (Ltd.)	26/7/99	17,521	14,521	8,000	17,521	1 0 0	..	185	10	7,947	80,776	31,572	14,032	490
Argyle Gold-dredging Co. (Ltd.)	24/12/02	6,000	6,000	..	6,000	1 0 0	..	7	10	4,991	19,916	18,596	6,530	296
Bakery Flat Sluicing Co. (Ltd.)	10/9/96	2,500	2,013	300	2,500	0 18 6	..	28	..	2,953	11,129	12,068	1,068	277
Barewood Gold-mining Co. (Ltd.)	24/12/03	7,900	7,900	..	7,900	1 0 0	..	146	21	3,667	14,084	13,780	2,800	224
Bendigo Dredging Co. (Ltd.)	22/12/05	937	900	1,972	2,899	1 0 0	18	114	1	..	..	728	..	43
Black's Flat Gold-dredging Co. (Ltd.)	29/1/06	1,600	1,600	1,050	2,650	1 0 0	..	19	7	55	213	1,664	..	483
Central Charlton Dredging Co. (Ltd.)	8/12/99	5,800	5,800	1,700	7,000	1 0 0	..	100	8	5,952	28,350	22,624	5,950	..
Charlton Creek Gold-dredging Co. (Ltd.)	5/5/99	4,000	4,000	1,000	5,000	1 0 0	..	70	9	6,058	28,923	25,750	4,875	159
Chicago Gold-dredging Co. (Ltd.)	1/11/99	2,500	6,750	2,500	5,000	1 0 0	..	66	7	6,359	24,710	19,703	2,861	226
Clutha River Gold-dredging Co. (Ltd.)	31/9/04	3,500	1,800	2,300	3,500	1 0 0	..	160	8	1,541	6,966	6,804	..	666
Clyde Dredging Co. (Ltd.)	17/5/95	6,000	5,850	150	6,000	1 0 0	..	82	5	18,577	52,294	97,683	22,700	130
Crowe Gold-dredging Co. (Ltd.)	7/9/02	3,000	3,000	3,000	5,000	1 0 0	..	18	14	2,498	9,571	11,571	..	939
Criffel Lead Sluicing Co. (Ltd.)	30/9/05	7,000	5,500	1,600	7,000	1 0 0	864	74	20	11	42	5,250	..	790
Dunstan Lead Gold-dredging Co. (Ltd.)	31/5/99	17,500	17,489	3,000	17,500	Various	..	190	9	6,571	25,489	34,990	6,118	1,301
Earnsclough Gold-dredging Co. (Ltd.)	15/7/01	8	8	10,992	11,000	1 0 0	..	9	38	23,158	85,630	59,261	7,975	451
Electric Gold-dredging Co. (Ltd.)	2/9/99	26,000	..	26,000	26,000	1 0 0	..	271	18	43,425	168,786	49,900	118,293	1,414
Endeavour Gold-dredging Co. (Ltd.)	30/5/06	7,000	3,500	1,400	7,000	0 0 0	..	10	8	1,481	1,856	49,864	..	398
Enterprise Gold-dredging Co. (Ltd.)	24/8/91	9,000	8,866	3,500	10,500	1 0 0	..	137	8	19,328	74,909	39,515	26,879	91
Eitrick Gold Steam-dredging Co. (Ltd.)	29/8/90	3,000	3,000	2,000	3,000	1 0 0	..	119	8	9,387	36,134	39,515	5,240	425
First Bendigo Sluicing Co. (Ltd.)	7/11/06	2,600	2,600	..	2,600	1 0 0	..	7	8	..	..	254	..	254
Gardens Gully Dredging Co. (Ltd.)	14/8/03	11,000	10,694	2,000	12,794	1 0 0	..	33	8	2,177	8,563	9,972	420	..
Golden Bed Dredging Co. (Ltd.)	5/5/99	3,500	3,500	..	3,500	1 0 0	..	183	8	8,923	34,132	27,660	4,435	175
Golden Crescent Sluicing Co. (Ltd.)	26/11/98	2,500	2,500	..	2,500	1 0 0	..	25	7	4,249	16,476	13,510	6,650	48
Golden Gate Dredging Co. (Ltd.)	13/3/95	9,000	9,414	1,600	11,000	1 0 0	..	53	7	13,766	53,015	80,431	24,000	214
Golden Run Dredging Co. (Ltd.)	29/6/91	1,500	1,884	1,500	3,000	1 0 0	..	182	13	18,188	70,080	65,370	15,094	1,037
Golden Treasure Dredging Co. (Ltd.)	11/7/98	6,500	6,800	900	6,500	1 0 0	..	41	8	13,683	52,689	36,948	18,694	1,337
Harley and Riley Beach Dredging Co. (Ltd.)	14/7/97	5,000	3,700	1,300	5,000	1 0 0	..	385	8	28,321	109,553	94,058	79,625	184
Hessey's Gold-dredging Co. (Ltd.)	23/7/02	5,000	3,700	1,300	5,000	1 0 0	..	79	8	8,844	15,145	14,371	4,000	..
Hit or Miss Water-race Co. (Reg.)	19/6/67	300	300	..	301	20 0 0	..	3	..	..	..	..	..	..
Hydraulic Motor-dredging Co. (Ltd.)	—/—/04	13,080	13,080	13,000	300	1 0 0	..	7	3	464	1,785	1,767	..	406
Inland Block Gold-dredging and Sluicing Co. (Ltd.)	26/2/00	1,800	1,800	..	25,000	1 0 0	..	110	14	6,866	26,780	30,860	2,408	155
Jewett's Gully Gold-mining Co. (Ltd.)	2/5/05	1,800	1,800	..	1,800	1 0 0	..	24	4	174	688	2,720	..	313
Junction Electric Gold-dredging Co. (Ltd.)	3/9/99	26,000	..	26,000	26,000	1 0 0	..	307	10	17,100	66,226	47,015	22,750	219
Jutland Hydraulic Dredging Co. (No Liability)	28/6/01	5,000	4,100	900	5,000	1 0 0	..	8	7	3,067	11,759	14,862	1,875	197
Kia Ora Victoria Gold-dredging Co. (Ltd.)	10/8/01	9,100	5,915	..	9,100	0 18 0	..	36	16	11,527	46,781	36,111	16,885	..
Koputai Gold-dredging Co. (Ltd.)	9/1/06	8,200	8,200	900	8,500	1 0 0	..	42	8	52	208	2,951	..	1,073
Kura Gold-dredging Co. (Ltd.)	24/8/05	4,800	4,798	..	4,800	1 0 0	18	81	8	440	1,782	7,125	..	693
Lady Annie Gold-dredging Co. (Ltd.)	29/11/04	4,200	4,186	4,186	4,200	1 0 0	..	20	9	8,002	11,868	7,587	4,200	43
Lady Roxburgh Gold-dredging Co. (Ltd.)	8/8/00	9,000	4,888	2,000	11,000	0 14 0	..	112	8	3,903	15,018	16,671	2,795	255
Ladyvith Gold-dredging Co. (Ltd.)	19/4/00	12,000	3,964	3,000	14,500	0 10 0	..	79	9	4,087	15,742	15,864	4,466	140
Leat Chance Hydraulic Sluicing, Elevating, and Dredging Co. (Ltd.)	27/7/89	9,960	4,655	3,800	9,960	0 14 0	..	108	9	1,918	7,847	9,785	998	225

STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Mining Companies Acts, 1891, 1894, and 1900—continued.

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid up per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
OTAGO DISTRICT (INCLUDING SOUTHLAND)—continued.														
Lee and Party Waikaka Gold-dredging Co. (Ltd.)	14/7/06	5,180	5,180	£	5,180	£ s. d.	£	15	8	Oz.	2,008	924	1,086	109
Livingstone Creek Gold-dredging Co. (Ltd.)	21/12/02	3,500	3,500	1 0 0	3,500	1 0 0	..	24	8	2,579	5,594	13,216	1,075	860
Local Industry Gold-mining Co. (Ltd.)	31/10/91	1,500	1,500	1 0 0	1,500	1 0 0	..	13	5	4,462	17,176	17,384	2,288	660
Lone Star Dredging Co. (Ltd.)	15/3/02	750	600	0 16 8	720	0 16 8	..	15	10	3,237	12,909	12,061	540	213
Lower Nevis Dredging Co. (Ltd.)	29/11/06	550	275	0 10 0	1,150	0 10 0	..	6	7	..	..	147	..	398
Luggate Mining Co. (Ltd.)	17/12/04	1,200	65	..	24	..	..	9	..	10	39	345	..	219
Magnum Bonum Gold-dredging Co. (Ltd.)	1/3/06	2,500	2,500	1 0 0	2,500	1 0 0	..	10	8	802	..	3,905	1,063	..
Manuherikia Gold-dredging Co. (Ltd.)	1/8/99	6,000	6,000	1 0 0	12,000	1 0 0	..	176	8	12,143	46,355	24,877	26,700	43
Manuka Mining Co. (Ltd.)	26/5/04	200	200	1 0 0	200	1 0 0	..	7	3	320	1,241	1,784	..	62
Masterton Gold-dredging Co. (Ltd.)	6/1/04	5,000	3,500	1 0 0	5,000	1 0 0	..	72	8	5,727	22,530	8,132	15,000	..
Matakanui Gold-mining Co. (Ltd.)	22/1/02	7,000	7,000	1 0 0	7,000	1 0 0	..	8	7	2,458	9,895	9,857	1,924	..
Matauu Dredging Co. (Ltd.)	16/10/97	6,200	6,200	1 0 0	7,000	1 0 0	..	123	8	9,846	37,908	2,784	15,225	176
Mill Creek Freehold (Ltd.)	27/11/03	4,000	4,000	50 0 0	80	50 0 0	..	29	7	2,145	8,560	10,911	1,400	2
Molyneux Hydraulic Dredging Co. (Ltd.)	25/5/00	5,896	5,896	1 0 0	5,896	1 0 0	..	92	7	9,360	35,979	40,521	6,191	189
Molyneux Kohinoor Dredging Co. (Ltd.)	27/1/00	7,325	6,716	18/6 & 21	9,625	18/6 & 21	174	161	3	3,554	13,710	15,964	4,572	100
Mount Morgan Sluicing Co. (Ltd.)	2/7/02	800	800	1 0 0	2,800	1 0 0	..	7	3	745	2,863	4,169	..	7
Muddy Creek Co. (Ltd.)	2/11/01	1,120	1,120	0 0 0	1,845	0 0 0	..	28	10	5,819	22,725	17,088	4,386	..
Muddy Terrace Sluicing Co. (Ltd.)	4/10/96	10,400	2,523	0 8 0	10,400	0 8 0	1,040	74	5	6,354	24,988	20,754	8,268	..
Mystery Flat Gold-dredging Co. (Ltd.)	16/7/00	5,512	4,512	1 0 0	5,512	1 0 0	..	107	8	3,504	24,988	20,754	8,268	..
Naseby Dredging and Hydraulic Sluicing Co. (Ltd.)	16/10/97	2,288	2,288	0 15 8	5,000	0 15 8	..	24	4	2,600	13,487	14,535	2,750	28
New Alpine Consols Dredging Co. (Ltd.)	3/7/02	3,750	3,750	0 10 0	7,500	0 10 0	..	123	8	2,600	9,989	10,938	2,052	59
New First Chance Gold-dredging Co. (Ltd.)	8/11/06	4,240	1,675	1 0 0	4,240	1 0 0	95	138	1	..	..	1,218	..	..
New Fourteen-mile Beach Gold-dredging Co. (Ltd.)	17/3/04	4,194	4,194	0 17 6	4,793	0 17 6	..	96	8	3,799	14,741	10,717	5,991	61
New Maori Point Gold-dredging Co. (Ltd.)	22/8/04	1,750	1,630	1 0 0	1,750	1 0 0	6	37	7	1,724	6,986	8,236	..	387
New Monte Christo Dredging Co. (Ltd.)	21/7/04	1,500	977	1 0 0	1,500	1 0 0	..	35	1	588	2,207	3,466	..	58
New Perseverance Gold-dredging Co. (Ltd.)	21/4/04	14,000	..	1 0 0	14,000	1 0 0	..	125	20	6,214	24,044	24,889	3,500	131
New Roxburgh Jubilee Dredging Co. (Ltd.)	22/1/02	2,500	2,489	1 0 0	7,500	1 0 0	11	170	8	7,988	31,045	16,021	17,241	134
New Skipper's Sluicing Co. (Ltd.)	16/9/02	4,781	1,495	£1 & 10/	4,781	£1 & 10/	..	27	6	787	3,008	6,153	..	1
New Trafalgar Dredging Co. (Ltd.)	13/4/04	6,500	2,500	1 0 0	6,500	1 0 0	..	110	9	1,715	6,722	11,709	975	252
Nokomei Hydraulic Sluicing Co. (Ltd.)	26/3/98	24,000	7,000	1 0 0	24,000	1 0 0	..	57	58	15,734	59,831	47,551	20,484	576
Orlog Dredging Co. (Ltd.)	13/3/99	8,955	7,955	£1 & 17/6	8,955	£1 & 17/6	196	70	7	5,448	21,193	23,822	4,173	477
Otago Gold-dredging Co. (Ltd.)	20/5/95	5,000	2,000	1 0 0	5,000	1 0 0	..	66	14	15,060	58,192	48,928	13,500	834
Ourawera Gold-mining Co. (Ltd.)	23/5/95	3,000	3,000	1 0 0	3,000	1 0 0	..	17	11	8,747	34,743	25,665	12,415	..
Paracale Gold-dredging Co. (Ltd.)	7/9/06	2,400	2,400	1 0 0	2,550	1 0 0	..	14	3	..	..	2,578	..	768
Paterson's Freehold Gold-mining Co. (Ltd.)	15/7/99	8,000	8,000	1 0 0	12,000	1 0 0	..	32	17	8,988	35,950	43,971	7,300	230
Phoenix Dredging Co. (Ltd.)	27/3/02	1,500	1,500	50 0 0	30	50 0 0	..	15	7	2,942	11,746	11,881	3,300	16
Phoenix Water-race Co. (Ltd.) (Reg.)	12/10/67	1,500	1,500	1 10 0	1,000	1 10 0	..	18	1	..	..	1,008	7,706	11
Punt Gold-dredging Co. (Ltd.)	10/11/04	3,000	1,750	1 0 0	3,000	1 0 0	..	30	9	1,928	7,445	10,441	..	739
Revival Gold-dredging Co. (Ltd.)	27/8/03	2,000	2,000	1 0 0	2,600	1 0 0	..	18	8	1,969	7,700	9,008	650	317
Rise and Shine Gold-dredging Co. (Ltd.)	24/2/00	10,000	9,746	1 0 0	12,000	1 0 0	254	178	19	11,789	45,277	50,511	3,900	650
Rising Sun Gold-dredging Co. (Ltd.)	16/2/01	8,000	5,600	1 0 0	8,000	1 0 0	..	77	11	4,993	19,236	18,769	1,600	405
River View Dredging Co. (Ltd.)	27/4/06	2,215	2,065	1 0 0	2,215	1 0 0	50	27	7	..	..	5,554	..	72

STATEMENT OF AFFAIRS OF MINING COMPANIES, as published in accordance with the Mining Companies Acts, 1891, 1894, and 1900—continued.

Name of Company.	Date of Registration.	Subscribed Capital.	Amount of Capital actually paid up.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares allotted.	Amount paid up per Share.	Arrears of Calls.	Number of Shareholders at present.	Number of Men employed.	Quantity and Value of Gold or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid.	Amount of Debts owing by Company.
										Quantity.	Value.			
OTAGO DISTRICT (INCLUDING SOUTHLAND)—continued.														
Round Hill Mining Co. (Ltd.)	30/7/02	£ 28,245	£ 6,753	£ 21,492	5,649	£ s. d. 5 0 0	..	180	35	Oz.	£	107,251	£ 1,977	£ 360
Roxburgh Amalgamated Mining and Sluicing Co. (Ltd.)	2/3/89	29,153	13,121	15,000	29,152	0 18 6	..	168	14	24,475 22,613	97,730 87,912	79,299	25,142	96
Royal Waimumu Gold-dredging Co. (Ltd.)	6/10/00	5,500	5,330	..	5,500	1 0 0	..	41	10	4,907	19,740	20,649	4,590	269
Sailor's Bend Dredging Co. (Ltd.)	1/9/99	8,000	6,500	1,500	8,000	1 0 0	..	175	8	2,908	11,239	16,085	2,791	1,031
Sailor's Gully (Waihuna) Gold-mining Co. (Ltd.)	3/6/96	2,000	200	1,800	2,000	1 0 0	..	11	4	2,496	9,330	7,202	2,450	39
Sandy Point Gold-dredging Co. (Ltd.)	20/2/03	8,000	8,000	..	8,000	1 0 0	..	50	9	6,289	24,508	24,701	7,200	424
Scandinavian Water-race Co. (Reg.)	8/4/68	12,000	12,000	..	240	50 0 0	..	20	13	..	..	..	15,666	5,213
Shotover Consolidated Mining Co. (Ltd.)	13/7/06	3,000	1,088	7,967	10,991	0 0 8	115	62	8	..	..	1,004	..	..
Smith Gold-mining Co. (Ltd.)	19/10/98	1,700	1,700	300	2,000	1 0 0	..	18	4	1,206	4,765	6,694	..	201
Switzers Dredging Co. (Ltd.)	9/6/06	3,855	3,855	500	4,555	1 0 0	..	37	..	..	..	2,952	..	1,105
Taiari Falls Electric Power Transmission Co. (Ltd.)	9/10/06	4,000	351	2,000	3,905	0 6 0	222	58	4	..	..	370	..	220
Tallaburn Hydraulic Sluicing Co. (Ltd.)	3/12/04	1,200	1,200	..	12	100 0 0	..	7	7	853	3,284	3,583	1,380	..
Tamaiti Gold-mining Co. (Ltd.)	17/8/05	3,000	2,250	250	3,000	1 0 0	..	16	5	166	641	3,127	125	255
Tinker's Gold-mining Co. (Ltd.)	10/6/02	15,000	15,000	15,000	15,000	1 0 0	..	14	8	3,568	13,732	13,764	7,125	71
Tinohy's Creek Dredging Co. (Ltd.)	24/7/05	840	788	..	840	£ 12 5	..	25	8	233	900	1,673	..	1,266
United M. and E. Water-race Co. (Reg.)	23/4/73	7,600	7,600	..	152	50 0 0	..	7	9	13,973	53,866	61,142	8,078	812
Vinegar Hill Hydraulic Sluicing Co. (Ltd.)	23/9/00	6,000	6,000	..	6,000	1 0 0	..	13	7	..	7,249	6,318	1,050	900
Waikaka Gold-dredging Co. (Ltd.)	30/10/03	3,500	1,750	1,750	3,500	1 0 0	..	84	9	2,601	10,826	11,602	2,975	183
Waikaka Kia Ora Gold-dredging Co. (Ltd.)	10/7/03	5,000	..	..	5,000	..	..	15	7	1,831	7,255	8,045	750	352
Waikaka Gold-dredging Co. (Ltd.)	9/5/00	4,900	4,628	1,600	6,500	1 0 0	..	59	8	4,688	18,922	19,253	4,029	95
Waikaka Queen Gold-dredging Co. (Ltd.)	6/7/99	5,510	5,510	..	6,560	1 0 0	..	103	8	4,638	18,922	23,229	1,397	62
Waikaka Syndicate (Ltd.)	20/12/01	7,000	3,000	4,000	7,000	1 0 0	..	21	16	7,158	28,539	24,069	7,000	..
Waikaka United Gold-dredging Co. (Ltd.)	11/2/99	4,700	4,700	6,500	11,200	1 0 0	..	30	16	13,035	51,813	56,080	19,040	230
Waimumu Queen Gold-dredging Co. (Ltd.)	21/6/99	5,200	5,200	1,800	7,000	1 0 0	..	79	7	5,131	19,896	23,538	3,675	181
Waipori Consolidated Gold Dredges (No Liability)	22/3/99	2,500	2,275	225	2,500	1 0 0	..	7	7	8,868	14,891	15,752	2,000	388
Waihuna Dredging Co. (Ltd.)	2/2/02	1,380	1,390	..	1,380	1 0 0	..	22	..	605	2,380	3,966	1,001	..
Waihuna Hydraulic Sluicing Co. (Ltd.)	10/11/04	2,000	1,200	..	2,000	0 12 0	..	6	6	1,035	3,988	4,667	1,025	125
Totals .. .. .	..	681,557	440,618	303,755	708,811	..	2,498	7,371	996	617,000	2,405,135	2,042,327	735,622	35,694
Grand totals .. .. .	..	1,748,842	850,574	554,529	7,287,183	..	11,499	18,297	1,846	914,986	3,932,234	8,394,798	1,324,424	64,894

STATEMENT OF AFFAIRS OF MINING COMPANIES, as defined by Section 2 of "The Mining Companies Acts Amendment Act, 1897," and published in accordance with "The Mining Companies Acts Amendment Act, 1897."

Name of Company.	Date of Registration of Office in Colony.	Subscribed Capital.	Amount of Capital actually paid up in Colony.	Value of Scrip given to Shareholders on which no Cash paid.	Number of Shares on Colonial Register.	Amount paid up per share: Colonial Register.	Arrears of Calls: Colonial Register.	Number of Shareholders on Colonial Register.	Number of Men employed in Colony.	Quantity and Value of Gold or Silver produced since Registration.		Total Expenditure since Registration.	Total Amount of Dividends paid in Colony.	Amount of Debts owing by Company.
										Quantity.	Value.			
AUCKLAND DISTRICT.														
Arrindell Syndicate (Ltd.)	10/12/03	£ 10,000	£ ..	£ 13,000	..	£ s. d. 1 0 0	£ s. d. ..	..	10	Oz. 46	£ 135	£ 6,000	£ ..	£ ..
New Zealand Crown Mines Co. (Ltd.)	27/6/96	200,000	..	200,000	60,301	1 0 0	..	162	143	244,318	586,907	558,511	1,224	1,218
New Zealand Jubilee Gold Mines (Ltd.)	16/11/00	31,250	..	..	..	..	..	..	8	..	1,646	17,183	..	..
Waihi Grand Junction Gold-mining Co. (Ltd.)	22/12/97	278,500	5,334	..	8,392	1 0 0	..	124	269	..	9,556	231,018	..	2,944
Totals	..	519,750	5,334	213,000	68,693	..	..	286	429	244,364	598,244	812,712	1,224	4,162
OTAGO DISTRICT.														
Blue-pur and Gabriel's Consolidated Gold-mining Co. (Ltd.)	1/2/88	91,266	..	..	130,000	..	..	..	28	45,612	173,380	4,799	..	..
Totals	..	91,266	..	..	130,000	..	..	..	28	45,612	173,380	4,799	..	..
Grand Totals	..	611,016	5,334	213,000	198,693	..	..	286	457	289,976	771,574	817,511	1,224	4,162

(g.) EXAMINATIONS UNDER "THE MINING ACT, 1905."

QUESTIONS USED IN EXAMINATION OF MINING MANAGERS FOR FIRST-CLASS AND SECOND-CLASS CERTIFICATES.

SUBJECT A.—*The Laying-out and Construction of Shafts, Chambers, Main Drives, Adits, Rises, Stopes, &c.*

1. A lode outcrops as shown on section No. 1* ; the underlie is 20° to the west : place shaft in position to cut the lode at 400 ft. vertical below the outcrop, and show by calculation how you arrive at the result.
2. The quartz has to be conveyed to battery paddock shown on section, either by self-acting aerial tram or partly by aerial and partly otherwise : show how you would do it. Give length of aerial line, number of buckets, capacity of each bucket, and the circumference of the best plough-steel wire rope, that you would use.
3. In stoping from level of shaft to outcrop, show how you would convey the quartz to paddock at the upper terminal of aerial tram.
4. The excavation for a shaft is as shown on sketch No. 2* : place your poppet-heads in position ; give height, dimensions, and description of timber you would use ; also show how (in this case) you could easily take the strain off the poppet-heads and insure perfect stability.
5. Are the terms "dip" and "underlie" synonymous ? If not, give your definition.

SUBJECT B.—*On the Timbering of Shafts, Adits, Main Drives or Levels, Passes, Stopes, and generally on the System of timbering Mines, and also in filling up Old Workings.*

1. In very heavy ground it is found that the ordinary frame sets will not stand the pressure. The shaft is rectangular, with four compartments ; each compartment is 5 ft. 6 in. by 4 ft. 6 in. in the clear ; the size of shaft before being divided into compartments is 21 ft. by 5 ft. 6 in. ; frame sets are to be used : give sketch of shaft in plan, timbered complete, and describe fully how you would fit the frames, and figure on plan the sizes of timbers.
2. In opening out from the shaft, give height of opening set (in the clear), and your reasons for length of legs. The crosscut to lode is in line with chamber : give length of chamber where the output is 100 tons in eight hours, and show by sketch how you connect with flat-sheets from a single line of rails. Give longitudinal sketch of timbers in chamber to joining of timbers in crosscut, also lengths and sizes of each set of legs and caps, and description of timber you would use.
3. The crosscut to lode is through medium hard ground, but requires timbering : give sketch of sets, showing width and height in the clear for a single line of rails, also sizes and description of timbers.
4. The lode when touched is found to be 8 ft. in width : give sketch of the sets you would use, and figure lengths and sizes on sketch. The ground swells : show how you would sidelath.
5. If your sets were 4 ft. apart on the straight run, and the lode altered its course 40° , give plan showing the position in which you would place the sets getting round the curve, give the radius of curve you would use, and lengths on tangents.
6. An uprise of three compartments has to be constructed to the next level above, 150 ft. in height : give sizes of pass-logs and centres, and dimensions of each compartment ; show where you would place the ladder-way, and give your reasons for doing so.
7. Show by sketch how you would timber stopes where the lode was 20 ft. wide, and also where the lode was 4 ft. wide, the underlie in both cases being 20° , and to what height you would stope before filling in.
8. What distance would you have the passes apart ?
9. What is the best grade where steel rails are used, and what should be the elevation of outer rail on a 30 ft. radius when the gauge is 20 in. ?
10. In timbering a level you find that by fitting the timbers in the ordinary way the sets will not resist the pressure : show a better style of fitting the same timbers so that the same pressure could be withstood.
11. Suppose you could not procure timbers of any kind when driving a level, your only material on the ground being iron or steel rails, show how you would thoroughly secure the ground as the work proceeded.
12. A black-birch cap is 3 ft. 6 in. between the legs : what must be the diameter of a cap of the same timber to resist the same pressure when the length between the legs is 7 ft. ?

* NOTE.—The sketches Nos. 1 and 2 are not reproduced here.

SUBJECT C.—*The Ventilation of Mines and Composition of Gases.*

1. What is meant by "ventilation" in mines? Why is it required? How is it produced? Explain fully.
2. Give the symbols, specific gravity, and composition of gases met with in mines, and explain how the presence of these gases is detected.
3. If the workings in a mine contained 1,000,000 cubic feet of air, of which 5 per cent. was CO_2 , how much atmospheric air would be required to dilute the air in the mine to render it harmless to workmen?
4. How can the presence of CO_2 be detected in a mine? What is the lowest percentage that can be detected? What effect has it on the workmen? Explain fully.
5. How is natural ventilation effected, and also how is ventilation effected by mechanical means?
6. The openings into a mine are by two shafts, each having a cross-sectional area of 100 square feet; the air in the downcast shaft has a temperature of 60° Fahr., and the air in the upcast shaft has a temperature of 87° Fahr.; show by calculation the ventilating-power.

SUBJECT D.—*Tapping Water in Mines, and the Mode of constructing Dams in Underground Workings to keep the Water back.*

1. In sinking a shaft, when at a depth of 100 ft. you encounter a layer of porous rock containing water; the layer is 20 ft. thick: what steps would you take to prevent the water getting down the shaft as the sinking proceeds? Describe fully.
2. It is desired to use an old crosscut (at a depth of 300 ft.) as a dam for collecting all the water from this level to the surface, and so to prevent the water getting down the shaft to the 1,000 ft. level; the crosscut is 7 ft. by 5 ft.; the water is to be dammed back to a height of 4 ft.: show how you would construct the breastwork; and what material would you use?
3. A dam is to be constructed in a crosscut to old workings; the rock is solid; the water will rise 600 ft. above the dam: give sketch of construction of dam, and show by calculation the total pressure on the structure; give details, the material you would use, and why.
4. At 400 ft. in depth from collar or shaft a level was constructed on a down grade of $5\frac{1}{4}$ in. per chain for a distance of 600 ft.; the water was then allowed to accumulate until it rose 40 ft. above the chamber: at this stage a tunnel driven from the opposite side of the hill (to meet the level from shaft) was 3,000 ft. in length, and (by survey) was found to be within 20 ft. of meeting: explain fully the steps you would now take to insure the perfect safety of the workmen when the connection was made.
5. A winze was sunk 100 ft. and timbered with black-birch; it was then allowed to stand until the water rose to the top of winze; an uprise to connect with the bottom of the winze is within 25 ft.: explain fully the precautions (if any) that you would now take to insure the safety of the workmen before you broke through to the bottom of the winze.

SUBJECT E.—*Blasting, and the Use of Explosives.*

1. Give relative strengths of blasting-gelatine, gelignite, rackarock, and dynamite, taking blasting-powder as 1.00: also give the composition of each.
2. Show by sketch how you would fire eight holes simultaneously with Bickford's igniter.
3. In case of a misfire, what time would you allow to elapse before going back, and what kind of pricker (if any) would you use?
4. If a charge of blasting-gelatine requires ten ordinary plugs, how many plugs of gelignite would you use for the same charge?
5. How do you fashion both ends of your scraper?
6. Out of what material do you make your tamping-bar?
7. When in a frozen condition, does blasting-gelatine become less powerful? If not, would you use it without thawing? If you thawed it, how would you do it?
8. Give weight and composition of charges in Nobel's Nos. 3, 6, and 7 detonators respectively.
9. Suppose you charged three holes, one each with dynamite, gelignite, and blasting-gelatine, what number of the above detonators would you use for each?
10. With what weight of blasting-gelatine would you charge a hole in medium-hard rock where the hole is 4 ft. 6 in. deep, and the line of least resistance is 2 ft. 9 in.? Show how you arrive at it.

SUBJECT F.—*A Knowledge of Arithmetic and the Method of keeping Mining Accounts.*

1. Five samples were assayed from a quartz lode—namely, 2 ft. in width gave 16 dwt. 13 gr. of gold to the ton; 3 ft. gave 7 dwt. 23 gr.; 4 ft. 9 in. gave 8 dwt. 4 gr.; 1 ft. 7 in. gave 34 dwt. 1 gr.; 2 ft. 6 in. gave 17 dwt.: show by calculation the average value of the cross-section of the lode where the samples were taken from, taking the value of the gold to be £3 13s. 4d. per ounce.

2. The cost of sinking a shaft to the depth of 400 ft. in wet ground was £4,600 12s. 6d. ; the wages came to three-eighths of that amount ; the pumping came to one-and-an-eighth times as much as the wages ; and the material came to one-quarter the cost of pumping : how much did each cost ?

3. If 24 men and 7 boys got out 50 tons of ore in 8 hours, how much ore would 7 men and 3 boys get out in the same time, allowing that each boy did five-eighths of the work of each man ?

4. Sixty miners were employed at the rate of 9s. per day of seven and a half hours, 14 truckers at the rate of 8s. a day of the same length, and 16 surfacemen at the rate of 8s. 6d. a day of 8 hours ; the miners worked $140\frac{1}{2}$ hours, the truckers 145 hours, the surfacemen worked $160\frac{1}{2}$ hours : make up a wages-sheet showing the amount due to each.

5. Extract the cube root of 0·000006357, and square the quotient.

QUESTIONS USED IN EXAMINATION OF MINING MANAGERS FOR FIRST-CLASS CERTIFICATES.

SUBJECT G.—*A Knowledge of Part V of "The Mining Act, 1905."*

Oral.

SUBJECT H.—*Pumping Appliances and the Drainage of Mines.*

1. What is the simplest method of raising water from a shaft 1,200 ft. in depth, and making 1,000 gallons an hour ?

2. What is meant by "direct-driven reciprocating pumps," and what motive powers are applicable ?

3. Has compressed air any advantage over direct steam for driving underground pumps ? If so, give your reasons fully.

4. In applying hydraulic pressure to underground pumping-engines, give three ways of doing the work, and describe each way.

5. Under what conditions is it desirable to use centrifugal pumps ? What is the usual lift for this style of pump ? What effect would the compounding of ordinary centrifugal pumps have ? and to what head would they work efficiently ?

6. Give a sketch of a Cornish plunger pump in position, and describe the working-parts.

7. What do you consider the best system of pumping machinery for very heavy work from a deep shaft ?

8. What advantage has the Bull system over the Cornish ? State fully, and give disadvantages (if any).

SUBJECT I.—*The Haulage in Shafts and on Underground Planes ; also the Strength of Haulage Ropes and Chains.*

1. If 30 tons per hour had to be lifted from a perpendicular shaft 1,000 ft. in depth, with double cages, what effective horse-power would be required when weight of cage = $\frac{1}{2}$ a ton, and truck = 5 cwt. ? Give number of trips ; circumference, weight, and description of rope that you would use ; and the time occupied in hauling, each trip. Show by calculation how you arrive at results.

2. What is the breaking-strain and safe working-load on a 3-in.-circumference patent plough-steel wire crane-rope (plain) ? And give the breaking-strain of a galvanised improved steel-wire crane-rope of the same circumference.

3. Give the rule for finding the breaking-strain on the best crane-chains, and the factor of safety.

4. Give a sketch of the best safety catch for a cage. How often would you test it, and how would you do it ?

5. What precautions would you take to insure the safety of the men in a case of overwinding ?

6. How does the engine-driver determine the position of the cages in the shaft ?

7. How often would you test the hauling-ropes, and how would you do it ?

8. If you wanted to be taken from No. 6 to No. 3 level, what knocks would you give ?

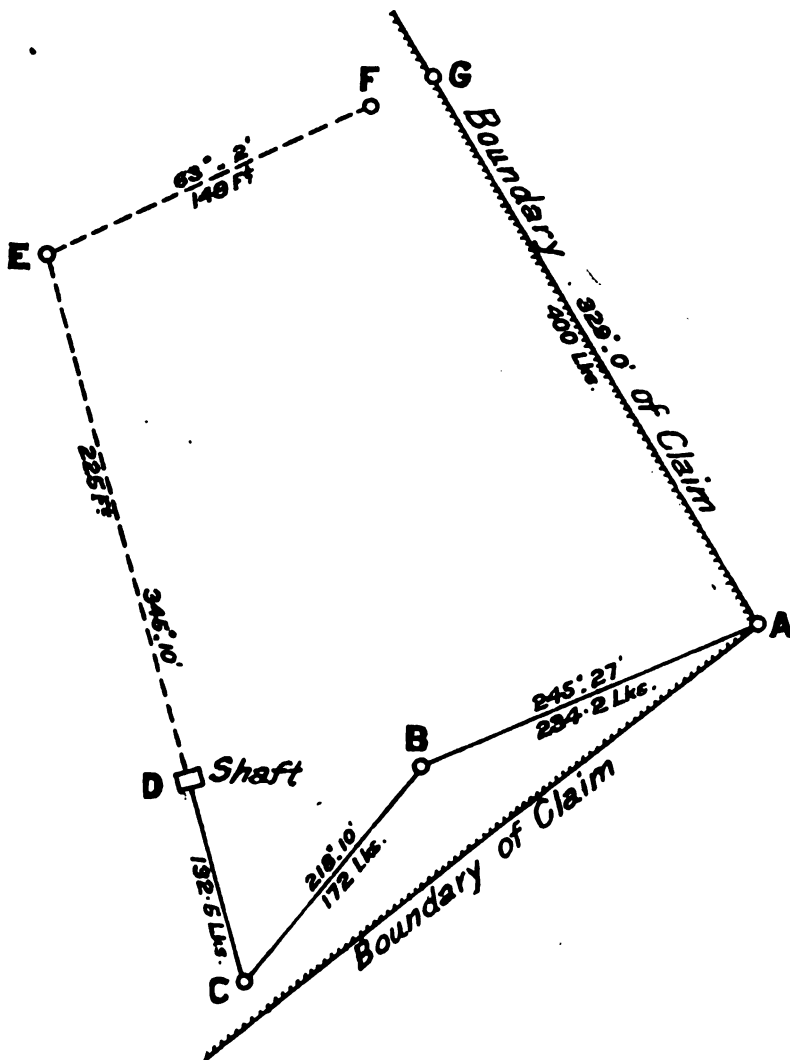
SUBJECT J.—*The Effect that Faults, Slides, and Mullock-bars have on Lodes, and how to ascertain the Direction of Slides and Heavals.*

1. Give sketches of heaves, throws, and slides that have come under your own observation, and state the names of the mines.

2. Suppose you were driving a level on a lode 12 ft. in width, and the quartz suddenly cut off against a slide, what steps would you take to recover the lost lode ? Give sketches showing how you would proceed if you used the rule laid down by Schmidt and Zimmerman, and explain fully.

3. What is meant by the term "a horse of mullock" ?

SUBJECT K.—*A Knowledge of Underground Surveying, and of making Plans of Underground Working showing the Dip or Inclination and Strike of Reefs or Lodes.*



A, corner of claim. A to B, $2^{\circ} 10'$ rise. B to C, $4^{\circ} 4'$ fall. C to D, $2^{\circ} 4'$ fall. D, shaft, 83 ft. deep. D to E, $7^{\circ} 12'$ rise. E to F, $63^{\circ} 2'$ rise. A to G, $16^{\circ} 23'$ rise.

The above diagram represents a mining survey of underground workings, and its connection with a corner of the claim. The surface traverse is shown by firm lines with distances in *links*; the underground by dotted lines with distances in *feet*.

1. What distance would have to be driven from F, and on what bearing, to reach the boundary of the claim at G? (Maximum marks, 30.)
2. Compute the depth below the surface at G of the bottom of the drive at F. (Maximum marks, 20.)
3. Explain how you would transfer the bearing of a surface traverse to an underground traverse, and also assure its accuracy throughout the latter, in a case of there being but one shaft. (Maximum marks, 15.)
4. Make a rough sketch-plan of some underground workings (imaginary) illustrating the dip or inclination and strike of reefs or lodes. (Maximum marks, 20.)

The candidate will be required to undergo an oral examination on the use and adjustment of the theodolite and other instruments used in mining surveys. (Maximum marks, 15.)

SUBJECT L.—*A Knowledge of the Different Rocks where Gold, Silver, Tin, Copper, Zinc, Lead, and Antimony are found, and the Formation of Lodes and Leads.*

[Candidates need only answer three out of the five questions.]

1. Name the chief New Zealand localities in which gold, silver, and copper are found, in each case mentioning the mineral form in which the metal occurs, and the nature of the rock enclosing the deposit.
2. It is often stated that one kind of rock is more favourable to the occurrence of a certain metal (say, gold) than another: to what extent do you consider the statement true (a) generally speaking; (b) as regards special localities—e.g., any mining district or districts known to you?

3. Describe the auriferous lodes of any district in New Zealand with which you are acquainted, paying attention to the following points :—

- (a.) Dimensions of lodes ;
- (b.) Dip and strike ;
- (c.) Enclosing-rock (country) ;
- (d.) Minerals associated with gold ;
- (e.) Distribution of gold in lodes (shoots, &c.).

4. Give some account of the way in which payable deposits of auriferous gravels (alluvial gold) have been formed. Exemplify your remarks by reference to localities in New Zealand or elsewhere.

5. What is meant by "bedded veins," "fissure-veins," and "contact deposits" ? Give examples of each from New Zealand localities.

QUESTIONS USED IN EXAMINATION OF BATTERY-SUPERINTENDENTS FOR CERTIFICATES.

SUBJECT A.—*The Different Modes of reducing and pulverising Ores.*

1. State where and by whom you were employed. Give the dates you were actually employed in a quartz-crushing battery where bullion was recovered by cyanide-of-potassium treatment. Also state in what capacity you were employed.

2. Show by sketch in plan and section how you would construct a battery of thirty stamps, with rock-breaker, ore-bins, ore-feeders, amalgamating-tables, and concentrators. Show the relative position of each by giving all the dimensions on the sketch in figures. Also give the speed of the different machines, and their capacity.

3. If thirty heads of stamps require 60-horse power to drive them at the greatest speed with safety, and a Pelton wheel 6 ft. in diameter is required to drive the stamps under a head of 200 ft., over which 300 cubic feet of water was discharged per minute, the wheel giving 80 per cent. of the theoretical power of the water, and the stamps requiring 66 per cent. of the power given out by the Pelton wheel, what would be the weight, drop, and speed of the stamps, the number of revolutions of the Pelton wheel to give its maximum power, and also the diameter of a nozzle required to discharge 300 cubic feet of water on to the Pelton wheel ? Show by calculation how you arrive at the result.

4. If you required a compound steam-engine of 130 theoretical horse-power to drive the whole of the machinery in a crushing-battery, the initial pressure of steam in the high-pressure cylinder being 100 lb. per square inch, and the piston-speed of engine being 450 ft. per minute, show by calculation the diameter of the high- and low-pressure cylinders if steam were cut off the high-pressure cylinder at half-stroke.

5. How is the bullion recovered from the copper plates when the battery is working continuously ? How is it prepared for market ? Also, how do you ascertain its value ?

SUBJECT B.—*Amalgamating-machines.*

1. State fully what descriptions of auriferous and argentiferous ores are best suited to amalgamation, and how amalgamation is produced.

2. Are there any auriferous or argentiferous ores from which in their natural state very little or none of the bullion can be recovered in amalgamating-machines ? If so, give a full description of the ores, and the reason why the bullion they contain cannot be successfully recovered by amalgamation.

3. Describe the action of the McKay and the Watson-Denny amalgamating-pans, their capacity, the horse-power required to work them, the number of revolutions they require to be driven per minute, and how the bullion is recovered from them.

4. What effect has heat on amalgamation ? How is heat applied to amalgamating-machines ? and at what temperature is it so applied ? Give reasons for your answers.

SUBJECT C.—*The Use of Quicksilver, and Methods of using it in connection with the Extraction of Gold and Silver from Ores.*

1. How do you know when quicksilver is sickened and unfit for amalgamation ? What remedy would you apply to sickened mercury ? and state fully what causes mercury to be sickened.

2. What quantity of quicksilver would you use in a Watson-Denny amalgamating-pan ? How is the quicksilver drawn off ? and how do you separate the quicksilver from the bullion ?

3. How do you prepare copper plates for amalgamation ? How are the copper plates laid down ? Give the width and gradient of amalgamating-tables, and the position and use of amalgam-traps.

4. How is the bullion recovered from copper plates when the battery is working continuously ? How is it prepared to be fit for market ?

SUBJECT D.—*Cyanide, Chlorination, and other Chemical Processes of recovering Gold and Silver from Ores.*

1. Describe the class of ore most suitable for treatment with KCN solutions.

2. State fully how you ascertain the strength of KCN solutions most suitable for the ore you have to treat.

3. What effect, if any, have KCN solutions on raw concentrated ores ? Give reasons fully for your answer.

4. Describe how you would make up KCN solutions, and how you ascertain their strength by tests.
5. If you make up 40 tons of 0.15 per cent. KCN solution by using 30 tons of a sump solution containing 0.04 per cent. KCN solution, how many pounds of crude cyanide, containing 75 per cent. KCN, would be required?
6. How many tons of a 12-per-cent. KCN solution would be required to make up 195 tons of 0.2-per-cent. KCN solution by using a sump solution containing 0.03 per cent. of KCN?
7. How many pounds of crude cyanide, containing 70 per cent. KCN, would be required to make up 100 tons of 0.15-per-cent. KCN solution by using a sump solution containing 0.02 KCN?
8. Describe how KCN solutions are applied to auriferous ores; how the vats are filled and emptied; how the solutions are drawn off. How do you know when the ore is properly treated? What effect have KCN solutions on argentiferous ores when in a raw state? How could argentiferous ores be treated by KCN solutions to give a large percentage of the bullion?
9. Show by calculation the contents of a vat 35 ft. in diameter and 8 ft. 9 in. deep. How many tons of ore would it hold if it were filled to a depth of 6 ft., allowing 21 cubic feet to a ton? What depth of solution in the vat would be required if you had half a ton of solution to every ton of ore?
10. Describe fully how you would treat slimes by KCN solutions in the event of the solution not percolating through the ore.
11. What remedy would you apply if any of the workmen showed signs of KCN poisoning?
12. How are electric currents applied to the precipitation of gold from KCN solutions?
13. How is gold obtained from chloride-solutions? Also, how is the bullion recovered from KCN solutions and made into a marketable state?

SUBJECT E.—*Sampling and Testing of Ores.*

1. Describe the method you would adopt in taking a sample for assay from fifty truck-loads of quartz as it comes from the mine.
2. Carefully describe the fire assay of a sample of quartz for gold and silver. What modifications would you introduce in the process if the sample consisted largely of (a) hæmatite, (b) iron-pyrites?
3. How would you determine the percentage of tungsten in a sample of scheelite?
4. Describe exactly how you would determine the presence of the various elements in a sample of rock containing sulphides of lead, zinc, arsenic, and iron.

SUBJECT F.—*A Knowledge of Arithmetic and the Method of keeping Battery Accounts*

1. A cone having a base of 12 ft. contained 500 tons of gold: taking the specific gravity of gold to be 19.25, what would be the height of the cone?
2. A certain piece of work took 11 men and 5 boys 48 hours to accomplish: how long would it take 3 men and 9 boys to do the same work, each boy to do $\frac{1}{2}$ of a man's work?
3. A crushing-battery of twenty heads of stamps, having a cyanide plant, concentrators, and rock-breaker, cost £1,500; the battery cost twice as much as the cyanide plant; the concentrators cost one-third of the cyanide plant; the rock-breaker cost one-fifth of the concentrators: how much did each cost?
4. Divide 0.0000568 by .0457, and extract the cube root of the quotient.

SUBJECT G.—*A Knowledge of Part V of "The Mining Act, 1905."*

Oral.

LIST OF MINE-MANAGERS AND BATTERY-SUPERINTENDENTS WHO HAVE OBTAINED CERTIFICATES UNDER THE MINING ACTS.

THE MINING ACT.

FIRST-CLASS SERVICE CERTIFICATES.

Issued under "The Mining Act, 1886," without Examination.

Adams, H. H., Waiorongomai.	Greenish, J., Reefton.	*Nasmyth, T., Reefton.
*Anderson, P., Thames.	*Greenville, W., Ohinemuri.	Newman, W., Naseby.
*Andrews, R., Coromandel.	*Hall, J. F.	Northey, J., Thames.
Andrews, T., Thames.	*Hansen, P. C., Thames.	*O'Sullivan, D. E., Thames.
Barclay, T. H., Thames.	Harris, J., Owen's Reefs.	Polton, A., Karangahake.
Bennett, J., Alexandra.	Harrison, R. H., Coromandel.	Porter, J., Waipori.
Benney, J., Coromandel.	*Hicks, T. B., Thames.	Purvis, G., Ross.
Black, T., Waiomo.	Hilton, G. P., Bendigo.	Quinn, E., Te Aroha.
Bollersley, N., Boatman's.	*Hodge, F., Coromandel.	Radford, T., Thames.
Bradbury, M., Reefton.	Hollis, W., Thames.	Ralph, J. G., Thames.
Bray, John, Lyell.	Hunter, R., Thames.	Ranger, J., Reefton.
Burch, W. H., Thames.	James, F., Thames.	Rasmussen, C. L., Mokihinui.
Byrne, J. F., Stafford.	Jamieson, A., Coromandel.	Rasmussen, C. P., Mokihinui.
Cameron, A., Macetown.	Jenkins, M., Wakatipu.	Reid, P., Coromandel.
*Cameron, E., Te Aroha.	Johnstone, H., Bluespur.	Resta, L., Macetown.
Chapman, J. A., Dunedin.	Julian, J., Boatman's.	Roberts, E., Ross.
Clarke, G. S., Thames.	Kelly, J., Lyell.	Rooney, F., Reefton.
*Comer, R., Thames.	Kerr, J., Thames.	Scott, T., Waiorongomai.
Conradson, M., Lyell.	Lawn, E., Black's Point.	Searight, A., Reefton.
*Corin, W., Thames.	*Lawn, H., Boatman's.	*Senior, J., Thames.
Cornes, C. A., Karangahake.	Lawn, J., Reefton.	Smith, J. E., Thames.
Coutts, J., Thames.	*Littlejohn, W., Karangahake.	Stone, F., Karangahake.
Crawford, T. H., Thames.	*Lowe, E. W., Thames.	Steedman, J. B., Thames.
Crowley, C., Reefton.	Malfoy, J. M. C., Ross.	Sturm, A., Waipori.
Cummings, W., Reefton.	Martin, W. G., Thames.	Taylor, N., Thames.
Davis, J. E., Queenstown.	McCallum, J., Reefton.	Todd, C., Heriot.
*Davey, C., Ross.	McCullough, R., Thames.	Treloar, J. S., Reefton.
*Donald, J., Cromwell.	McGrue, G. N., Karangahake.	Tripp, R. S., Arrowtown.
*Dryden, S., Thames.	*McIlhane, J., Thames.	Vivian, J. G., Thames.
Dunlop, T. A., Thames.	McIntosh, D., Bluespur.	Vivian, S., Reefton.
Edwards, J., Skipper's.	McKay, J., Ross.	*Waite, C. D., Thames.
Elliott, J., Macetown.	McKenney, J., Reefton.	*Waite, E., Thames.
*Evans, F., Skipper's.	McKenzie, W., Thames.	Walker, J. W., Thames.
Evans, J. H., Skipper's.	*McLeod, G., Coromandel.	Watson, T., Reefton.
*Fitzmaurice, R., Reefton.	McLiver, F., Thames.	Wearne, J. E., Endeavour Inlet.
Frewen, J. B., Queenstown.	*McLiver, H., Thames.	Wearne, T., Endeavour Inlet.
Gavin, T., Te Aroha.	McMaster, J., Reefton.	*Wilcox, J., Thames.
Gilbert, J., Reefton.	Moore, H. W., Thames.	Williams, J., Skipper's.
Gilmour, T., Thames.	*Moore, J. H., Thames.	Wright, G., Boatman's.
Giles, G. F., West Wanganui.	Morgan, R., Otago.	Wylie, W., Ross.
Glass, W. M., Naseby.	Morrisby, A. A., Glenorchy.	Young, G., Skipper's.
Goldsworthy, J., Waiorongomai.		

First-class Mine-managers' Certificates, issued after Examination, under "The Mining Act, 1886," and Amendment Acts.

Adams, B., Thames.	Crawford, J. J., Thames.	Hoaking, G. F., Auckland.
Baker, W., Thames.	Cummings, W., Reefton.	Kruisensa, W., Reefton.
Black, G., Reefton.	Donaldson, W., Otago.	Lawn, T., Reefton.
*Caples, P. Q., Reefton.	Fleming, M., Thames.	Logan, H. F., Wellington.
*Carter, J., Thames.	Gardner, W. P., Reefton.	Mangan, T., Thames.
*Casley, G., Reefton.	Harris, W., Thames.	Mouat, W. G., Dunedin.
Cochrane, D. L., Reefton.	Horn, G. W., Thames.	*Truscott, G., Thames.
Colebrook, J. D., Coromandel.	Horne, W., Coromandel.	Watkins, W. E., Reefton.
Coombe, J., Reefton.	Hornick, M., Thames.	Wilkie, J., Reefton.

First-class Mine-managers' Certificates, issued on Production of Certificate from a Recognised Authority outside the Colony, under "The Mining Act, 1886," "The Mining Act, 1891," and "The Mining Act, 1898."

Argall, W. H., Coromandel.	Griffiths, A. P., Auckland.	Molineaux, H. S., Gore.
Beckwith, L. H., Wellington.	Griffiths, H. P., Auckland.	Rich, F. A., Auckland.
Datson, J., Manaia.	Halley, R. C., Dunedin.	Williams, W. H., Auckland.
Dodd, William Milton.	McKenna, Thomas, Dunedin.	

First-class Mine-managers' Certificates, issued after Examination, under "The Mining Act, 1891."

Agnew, J. A., Thames.	*Hughes, D., Thames.	Prince, F. H., Reefton.
Annear, William, Reefton.	James, T., Thames.	Robertson, D. B., Stafford.
Arcott, R., Waihi.	Keam, P. E., Thames.	Ross, Richard, Thames.
Bennett, E. P., Thames.	Lane, J., Reefton.	Russell, Murray, Dunedin.
Boydell, H. C., Coromandel.	Lawn, C. H., Capleston.	Shepherd, H. F., Thames.
Bradley, R. J. H., Te Puke.	Linck, F. W., Thames.	Stanford, W. J., Macetown.
Bray, E., Reefton.	Marshall, F., Reefton.	Steedman, J. G., Thames.
*Bruce, Malcolm, Thames.	Morrison, R., Thames.	Sutherland, Benjamin, Reefton.
Carroll, J., Lyell.	McDermott, J., Thames.	Tierney, R., Thames.
Cartwright, E., Thames.	McDermott, G., Thames.	Vialoux, F., Coromandel.
Crabb, J., Reefton.	McDermott, W., Thames.	Warne, George, Thames.
*Dobson, J. A., Auckland.	McGregor, W. T., Thames.	Waters, D. B., Skipper's.
Evans, H. A., Wellington.	McKensie, H. J., Coromandel.	Watt, J., Thames.
Fahey, P., Reefton.	McPeake, J., Thames.	White, G. H., Thames.
Flannigan, Francis, Reefton.	O'Keeffe, M. D., Thames.	Whitley, A., Thames.
Gilmour, J. L., Thames.	Paul, Matthew, Thames.	Williams, C., Capleston.
Hodge, J. H., Thames.	Paltridge, Henry, Thames.	

* Deceased since issue of certificate.

FIRST-CLASS SERVICE CERTIFICATES AS MINE-MANAGERS—continued.

First-class Mine-managers' Certificates, issued after Examination, under "The Mining Act, 1898."

Allen, Henry, Waihi.	George, M. T., Waihi.	Morrison, William, Waihi.
Barker, B., Thames.	Goldsworthy, C., Karangahake.	Moye, Michael, Reefton.
Bennie, Boyd, Waihi.	Goldsworthy, W., Coromandel.	Oats, John, Black's Point, Reefton.
Bishop, Thomas Otto, Skippers, Otago.	Gordon, J. A., Thames.	O'Sullivan, J. W., Thames.
Blenkhorn, C., Coromandel.	Grayden, P., Thames.	Rabe, John, Thames.
Bolitho, Joseph, Reefton.	Greening, W., Karangahake.	Rimmer, J. C., Helensville.
Bower, J. W., Coromandel.	Hitchcock, W. E., Barewood.	Ridden, John, Reefton.
Buddle, Frank, Coromandel.	Hooker, John, Coromandel.	Saunders, W. H., Reefton.
Bull, C. W., Waihi.	Irwin, Samuel, Waihi.	Sheehan, D., Karangahake.
Caisley, John, Karangahake.	Jackson, G. T., Waihi.	Stewart, F., Waihi.
Carroll, A. M., Reefton.	Johnson, J. H., Coromandel.	Thomson, Thomas, Waihi.
Carroll, John, Kuaotunu.	Langford, G. S., Waihi.	Thorne, G. M., Waihi.
Carter, R. P., Waihi.	Lawn, Nicholas, Reefton.	Tucker, E. S., Coromandel.
Clouston, R. E., Kaitangata.	Lewis, Ralph Reginald, Waihi.	Turnbull, E. V., Coromandel.
Cooper, J. H., Thames.	Mackie, Portland Geo. Alex., Waihi.	Turner, C. E., Murchison.
Cooper, Thornhill, Waihi.	McConachie, W., jun., Waihi.	Watson, J. L., Thames.
Cordes, F. M., Karangahake.	MacDuff, R. B., Thames.	Webber, J. H. A., Reefton.
Cornes, J. G., Waihi.	McGruer, A., Karangahake.	Weir, Thomas, Waihi.
Daley, John William, Waihi.	MacLaren, J. A. J., Coromandel.	Whyte, N. McG. H., Waihi.
Docherty, W. H., Coromandel.	McMahon, J. H., Reefton.	Williams, C., Thames.
Ellery, John, Reefton.	McMahon, T., Reefton.	Wilson, A. Ian, Thames.
Evered, N. J., Waihi.	Mitchell, William J., Barewood.	Wood, P. H., Reefton.
Fry, S., Waimangaroa.	Morgan, William, Waihi.	Wotherspoon, James, Waihi.

First-class Mine-managers' Certificates, issued under Section 313 of "The Mining Act, 1891."

Edwards, George, Westport.	Rickard, John, Thames.	Trelease, J. H., Thames.
Hornibrooke, H. P., Coromandel.	Snow, Thomas, Huntly.	Williams, John, Kuaotunu.
Martin, James, Reefton.	Thomas, James, Thames.	White, John S., Karangahake.

First-class Mine-managers' Certificates of Competency, granted to Holders of Provisional Warrants under Section 32 of "The Mining Act Amendment Act, 1896."

Alexander, Thomas, Deep Creek.	Harvey, A. G., Coromandel.	Moorecraft, Walter, Coromandel.
Argall, A. E., Coromandel.	*Howard, Samuel, Karangahake.	Morgan, William, Owharoa.
Battens, H., Coromandel.	James, Robert, Thames.	Moyle, Thomas, Thames.
*Begley, Thomas, Reefton.	Jamieson, John, Reefton.	Patton, William, Macetown.
Bennett, Charles Henry, Kuaotunu.	Johns, Thomas, Waihi.	Pearce, Francis, Reefton.
Bunney, Joseph, Waihi.	Kennerley, W. H., Thames.	Potter, William H., Thames.
Campbell, Alexander, Cullensville.	Langford, James, Coromandel.	*Rabe, Henry, Karaka.
Carlyon, Samuel, Coromandel.	McCombie, John, Karangahake.	Rillstone, Charles, Waipori.
Cornes, C. A., jun., Karangahake.	MacDonald, H., Coromandel.	Somervell, John, Thames.
Daldy, Edward Arthur, Coromandel.	McEntee, James, Tararu.	Stackpole, Robert, jun., Karangahake.
Draffin, Samuel, Waitekauri.	McFarlane, Charles M., Tokatea.	Thomas, Archelaus, Tapu, Thames.
Farmer, C. S., Waitekauri.	McLean, Benjamin J., Waitekauri.	Turnbull, Thomas A., Whangamata.
Goldsworthy, Thomas, Tokatea.	McLean, Charles, Thames.	*Willea, Henry, Thames.
Goldsworthy, William, Karangahake.	McLean, James, Tararu, Thames.	*Wilson, James R. S., Kuaotunu.
Govan, Joseph, Thames.	Meehan, James, Westport.	

First-class Mine-managers' Certificates, issued to Inspectors of Mines, by virtue of Office under the Mining Acts, 1886, 1891, and 1898.

Binna, G. J., Dunedin.	*Gow, J., Dunedin.	McLaren, J. M., Thames.
Cochrane, N. D., Westport.	Green, E. R., Dunedin.	Tennent, R., Westport.
Gordon, H. A., Wellington.	Hayes, J., Dunedin.	*Wilson, G., Thames.

SECOND-CLASS SERVICE CERTIFICATES AS MINE-MANAGERS.

Issued under "The Mining Act, 1891."

Adams, W. J., Thames.	Gill, George, Thames.	McCombie, John, Karangahake.
Agnew, J. A., Coromandel.	Glasgow, T. M., Thames.	*McCormick, Charles, Coromandel.
Allen, Richard, Reefton.	Goldsworthy, Henry, Thames.	McEwen, James, Reefton.
Argall, A. E., Coromandel.	Goldsworthy, William, Mauku, Auckland.	McLean, James, Thames.
Beard, W. T., Reefton.	Govan, Joseph, Thames.	McLean, Alex., Coromandel.
Begley, Thomas, Reefton.	Gribble, James, Norsewood.	McLean, Charles, Thames.
Bennett, C. H., Coromandel.	*Griffin, Patrick, Thames.	McNeill, Daniel, Thames.
Blair, Thomas, Kuaotunu.	Grimmond, Joseph, Ross.	McNeill, George, Upper Kuaotunu.
Bolitho, James, Reefton.	Guthrie, John, Wellington.	McLoghry, Archibald, Karangahake.
Bone, William, Reefton.	*Guy, Robert, Kuaotunu.	McQuillan, John, Reefton.
Borlase, J. H., Capleston.	Hardman, James Edward, Thames.	Meagher, John, Karangahake.
*Bowler, John, Thames.	*Harris, R., Thames.	Mills, George, Thames.
Bray, Edwin, Reefton.	Harvey, William, Reefton.	Milne, John, Thames.
Bremner, John, Coromandel.	Hetherington, William, Thames.	Morgan, William, Upper Thames.
Brokenshire, James, Thames.	*Hicks, W., Thames.	Moorecraft, Thomas, Thames.
Brown, John, Macrae's.	Hill, Alex. Grey, Waikakaho.	Moyle, Thomas, Thames.
Brownlee, Thomas James, Thames.	Hollis, Fred. J., Waihi.	Nayamith, James, Reefton.
Bunny, Joseph, Thames.	Hore, John, Wellington.	Newdick, Alfred, Thames.
Byrne, John, Karangahake.	Hornibrook, H. P., Kuaotunu.	Notman, Alexander, Reefton.
Caird, Alexander McNeil, Reefton.	Jamieson, John, Reefton.	O'Keefe, M. W. D., Thames.
*Campbell, J., Kuaotunu.	Jobe, James, Thames.	Page, John, Lyell.
*Climo, Noah, Coromandel.	Johns, Thomas, Thames.	Parkiss, Jos. W., Reefton.
Comer, W. W., Thames.	Johnstone, William, Collingwood.	Peebles, Alexander, Kuaotunu.
Comer, George, Thames.	Kendall, Henry, Thames.	Pestigrew, Robert, Sydney.
Corbett, T., Paeroa.	Kerr, George, Kamo.	*Phillips, W. H., Thames.
*Cowan, Hugh, Kuaotunu.	Kirker, Thomas, Thames.	*Pollock, John, Thames.
Crabb, Thomas, Reefton.	Laughlin, David, Thames.	Potts, W. H., Thames.
Daniel, P. F., Greymouth.	Law, John, Thames.	Primrose, J., Kuaotunu.
Dobson, John Allen, Kuaotunu.	*Lough, H., Thames.	*Rabe, Henry, Thames.
Edwards, George, Westport.	Loughlin, S., Thames.	Radford, Thomas, Thames.
Ellery, John, Reefton.	Mackay, William, Nenthorn.	Reid, Thomas Groat, Thames.
Flannigan, Francis, Reefton.	Martin, David, Black's Point.	Rickard, John, Thames.
Foster, Thomas, Wellington.	Martin, James, Reefton.	Richards, A. H., Kuaotunu.
*Gale, C. W., Coromandel.	Mayn, John, Coromandel.	Rogers, Charles Henry, Reefton.
Gemmings, Charles, Thames.		Rogers, William Henry, Kumara.

* Deceased since issue of certificate.

SECOND-CLASS SERVICE CERTIFICATES AS MINE-MANAGERS—continued.

Issued under "The Mining Act, 1891"—continued.

Ross, J., Thames.	Tregellas, James, Reefton.	*Wilson, James R. S., Kuaotunu.
*Rowe, James, Thames.	Tregoweth, William, Thames.	Wilson, J. G., Thames.
Shaw, James, Karangahake.	Wells, Charles Lewis, Thames.	Whiaker, Charles, Thames.
Sligo, Alex., Nenthorn.	Willets, Henry, Thames.	White, John S., Karangahake.
Thomas, James, Thames.	Williams, James, Thames.	Woodcock, James, Thames.
Thomas, A., Thames.	Williams, John, Thames.	Worth, Robert, Waihi.
Thomson, John, Dunedin.		

Second-class Mine-managers' Certificates, issued after Examination, under "The Mining Act, 1891."

Benney, J., jnn., Paeroa.	Evans, H. A., Skipper's.	McNeil, A. H., Coromandel.
Christie, William, Waitekauri.	*Gatland, V. Y., Coromandel.	White, F. H., Kuaotunu.
Draffin, S., Waitekauri.	Mathewson, A., Hyde.	White, G. H., Thames.
Dunkin, T., Coromandel.		

Second-class Mine-managers' Certificates, issued after Examination, under "The Mining Act, 1896."

Bennie, Boyd, Coromandel.	*Oahill, T. M., Upper Kuaotunu.	Carroll, John, Upper Kuaotunu.
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Second-class Mine-managers' Certificates, issued under Section 313 of "The Mining Act, 1891."

Connon, William, Thames.	Edwards, E., Coromandel.	McCormick, W. J., Waitekauri.
Coran, Henry, Thames.	Kelso, Archibald, Coromandel.	

Second-class Mine-managers' Certificates of Competency granted to Holders of Provisional Warrants under Section 32 of "The Mining Act Amendment Act, 1896."

Allen, W. J., Coromandel.	Gardner, James, Waimangaroa.	Martin, William, Tararu, Thames.
Barney, Montague T., Waitekauri.	Howe, Albion S., Waitekauri.	Murphy, Joseph, Coromandel.
Brownlee, Henry, Thames.	Johnson, Frank H., Collingwood.	O'Brien, John, Westport.
Collins, Charles, Waitekauri.	Kirwan, William, Reefton.	Prescott, Arthur J., Coromandel.
Curtis, Charles, Taylorville.	McDonald, John, Tairua.	Radford, Samuel, Waihi.
Davis, James, Coromandel.	McInnes, John, Puriri.	Ruffin, Richard, Maniaia, Coromandel.

BATTERY-SUPERINTENDENTS' CERTIFICATES.

Issued under "The Mining Act 1891 Amendment Act, 1894," without undergoing Examination.

Adams, H. H., Waihi.	Hope, John S., Waitekauri.	Napier, James, Karangahake.
Aitken, R. M., Reefton.	Hutchison, William, Karangahake.	Noble, James R., Karangahake.
Banks, Edwin Gripper, Waihi.	Margetts, Frederick Ernest, Kuaotunu.	Park, James, Thames.
Barry, Hubert Percy, Waihi.	McKenna, T. N., Tararu.	Shepherd, Henry Franklin, Waihi.
Goldsworthy, Henry, Kuaotunu.	McLellan, William, Waitekauri.	Sims, C. F., Tararu.
Goldsworthy, John, Kuaotunu.	Mellet, Richard Sheridan, Waitekauri.	Walker, James A., Kuaotunu.
Greenway, H. Howard, Auckland.		Wilson, Arthur E., Waihi.
Heard, G. St. Clair, Waihi.		Wilson, James Kitchener, Auckland.

Battery-superintendents' Certificates, issued after Examination, under "The Mining Act 1891 Amendment Act, 1894."

Adams, A. A., Thames.	Doveton, G. D., Thames.	McMicken, S. D., Thames.
Allen, F. B., Thames.	Fleming, G. O. S., Thames.	Morgan, P. G., Thames.
Allom, H. O., Thames.	Fowler, J. P., Kuaotunu.	Morrin, W. S., Thames.
Ansley, Comyn, Paeroa.	Gray, J. W., Waihi.	Noakes, H. L., Waihi.
Ansley, Walter, Thames.	Hayward, F. W., Komata.	Raithby, R. W., Reefton.
Banks, J. H., Waihi.	Horn, G. W., Kuaotunu.	Robinson, J. R., Waitekauri.
Bowra, W., Thames.	Jackson, J. H., Paeroa.	Stafford, B. H., Waihi.
Brown, A. E., Thames.	Jones, Achison, Waihi.	Taylor, C. H., Tararu.
*Carter, Samuel, Thames.	Kidd, F. D., Thames.	Thorpe, A. H., Thames.
Clarke, J. L., Thames.	Laurie, D. B., Karangahake.	Verooe, R. B., Thames.
Clarke, R., Waitekauri.	Lee, J. W., Reefton.	Wingate, H. M., Maratoto.
Clarke, W. J., Waihi.	Macdonald, W., Waihi.	Winslow, G., Thames.
Day, A. T., Thames.	McKenzie, H. J., Thames.	Williams, A. G. R., Thames.
Dixon, Clement, Waihi.		

Battery-superintendents' Certificates, issued after Examination, under the Mining Acts, 1898 and 1903.

Adams, J. H., Coromandel.	Carter, S., Waihi.	Grow, E. A., Crushingington.
Adams, Richard W., Tararu, Thames.	Carroll, John, Kuaotunu.	Grayden, J., Waitekauri.
Adams, J. H., Thames.	Chappell, G. A., Karangahake.	Grayden, Peter, Thames.
Airey, Hubert, Karangahake.	Clark, John L., Waihi.	Grimmett, P. H., Thames.
Aitken, Alexander Hugh, Waihi.	Clarke, Thomas, Waihi.	Gwilliam, Ben., Karangahake.
Allen, D. V., Thames.	Coote, J. M., Thames.	Halliwel, L. V., Karangahake.
Allen, H. E., Wellington.	Corbett, G. L., Waitekauri.	Hargraves, E. P., Waihi.
Anderson, David, Waihi.	Couper, J., Thames.	Hav, Adam, Karangahake.
Auld, J. B., Crushingington.	Cowles, R. K., Crushingington.	Hazard, T. R. C., Waitekauri.
Baker, W. H., Thames.	Crompton, H., Maratoto.	Hitchcock, W. E., Barewood.
Banks, C. A., Waihi.	Croucher, Herbert, Waihi.	Hogg, B., Karangahake.
Banks, E. J., Thames.	Dawson, B., Ellerslie.	Hogg, T. R., Karangahake.
Barrance, K. McK., Karangahake.	Donnelly, Thomas, Waihi.	Horn, G. W., Kuaotunu.
Barrett, J. J., Karangahake.	Donovan, Willie, Waikino.	Hutchison, R. M., Karangahake.
Barron, Wm. E., Waikino.	Draffin, Eugene, Kuaotunu.	Johnson, Edward, Waihi.
Baskett, E. G., Karangahake.	Eaton-Turner, Geoffrey William, Waihi.	Jones, R. D., Karangahake.
Bidlake, A. E., Waiomo.	Ellis, L. I., Waitekauri.	Kidd, R. B., Waitekauri.
Bird, A. W., Thames.	Empson, J. B., Karangahake.	Kingsford, A., Karangahake.
Bishop, T. O., Reefton.	Evans, G. O., Waihi.	Langford, G. S., Waikino.
Blackadder, Wm., Crushingington.	Evans, J., Waihi.	Lauder, G. H., Waitekauri.
Bradley, R. J. H., Karangahake.	Evans, W. B., Reefton.	Lawless, L. J., Paeroa.
Browne, E., Waitekauri.	Ewen, H. F., Auckland.	Littiejohn, W. D., Karangahake.
Brown, F. M., Karangahake.	Fletcher, H. T., Katikati.	Lovelock, J. E., Crushingington.
Brown, J. E., Komata.	Fraser, J. M., Reefton.	Mackay, John, Crushingington.
Burns, William, Waiomo.	Fuller, John P., Kuaotunu.	Matheson, Alex. M., Barewood.
Bush, E. F., Parawai.	Fyfe, A., Dunedin.	Milman, A., Reefton.
Bush, George Arthur, Karangahake.	Gardner, E. A., Reefton.	McEwin, J. A., Reefton.
Bush, H. R., Thames.	Gibson, William, Waihi.	McKinlay, John, Waihi.
Campbell, Colin, Thames.	Gilpin, J., Waihi.	McNeil, A. R., Karangahake.
Carpenter, W. E., Karangahake.		Montgomery, A. E., Oponoi.

* Deceased since issue of certificate.

BATTERY-SUPERINTENDENTS CERTIFICATES—continued.

Issued after Examination, under the Mining Acts, 1898 and 1905—continued.

Morgan, Robert James, Waihi.	Royse, W. G., Reefton.	Ulrich, Herstatt, Whangapoua.
Motherwell, Wm., Waihi.	Sanford, A. G., Waihi.	Walker, Alfred James Dickson, Waihi.
Moyle, W. T., Upper Tairua.	Shaw, D. S., Waikino.	Waters, D. B., Waihi.
Orbell, G. S., Waikouaiti.	Snaw, L. J., Waikino.	Watson, A. B., Waitekauri.
Paltridge, F., Thames.	Stephens, H., Dunedin.	Watson, A. P., Crusinghton.
Pond, H. O., Auckland.	Sutherland, J. A., Reefton.	Watson, J. R., Reefton.
Porteous, J., Crusinghton.	Thomson, G. W., Bendigo.	Watson, J. P., Reefton.
Quick, J. N., Thames.	Thurlow, J. R., Coromandel.	White, A. S. H., Karangahake.
Raid, J. E., Great Barrier.	Tomlinson, A., Karangahake.	Williams, A. O., Waihi.
Reynolds, E. A., Auckland.	Tomlinson, David Mitchell, Barewood.	Williams, James, Reefton.
Roberts, H. C., Waihi.	Tomlinson, W. F., Dunedin.	Williams, William Eustace, Waihi.
Rodden, Wm., Lyell.	Turnbull, E. V., Waihi.	Wilson, A. P., Crusinghton.
Rosewarne, R. H., Thames.	Ulrich, G. A. O., Komata.	

Dredgemasters' Certificates, without Examination, issued under "The Mining Act, 1898," and Amendment Acts, 1901 and 1905.

Allen, Chas., Alexandra.	Hewitt, James, Clyde.	O'Leary, D., Waiau.
Anderson, L. C., Alexandra.	Hogg, Thos., Cromwell.	Olsen, Chas., Roxburgh.
Andrews, Ralph, Canvastown.	Hskins, Thos., Maori Point.	Parsons, J. D., jun., Clyde.
Baker, J. R., Alexandra.	Hoy, Samuel, Alexandra.	Peroy, John, Clyde.
Ballantyne, D., Miller's Flat.	Inwood, W. J., Rocklands Beach.	Perkins, A. O., Dunedin.
Barnes, T. J., Beaumont.	Johnston, E. A., Alexandra.	Pettigrew, Geo., Nelson Creek.
Barry, Thos., Clyde.	Johnstone, Alexander, Cromwell.	Poulter, G. W., Alexandra.
Bradley, Neil, Alexandra.	Keen, Thos., Clyde.	Pringle, John, Miller's Flat.
Bennett, Geo., Gore.	Kennedy, Angus, Alexandra.	Ray, J. C., Totara Flat.
Bennett, James, Kumara.	Kitto, Ed. T., Miller's Flat.	Reeder, Philip, Bald Hill Flat.
Blue, G. P., Alexandra.	Kitto, Francis, Lowburn.	Rennie, Andrew, Roxburgh.
Brand, Peter, Waikaka.	Kitto, Jno. F., Miller's Flat.	Ross, Alexander, Cromwell.
Brennan, Philip, Palmerston S.	Kitto, W. H., Cromwell.	Ross, Robert, Alexandra.
Bremner, A. P., Lower Shotover.	Kloogh, N. P., Lowburn Ferry.	Richmond, J., Gibbston.
Brice, Wm. H., Cromwell.	Lawson, Ed., Dunedin.	Ritchie, J. S., Waitiri.
Bringans, D., Alexandra.	Ledingham, J., Bannockburn.	Sanders, H. P., Clyde.
Brown, T. G., Ahaura.	Lee, George, Collingwood.	Sanders, John, Cromwell.
Bunting, James, Murchison.	Lidicoot, R. H., Fern Flat.	Sanders, Thos., Alexandra.
Busbridge, P., Gore.	Louden, Alexander, Clyde.	Schaumann, H., Alexandra.
Butler, Ewen, Roxburgh.	Luke, S. J., Alexandra.	Scott, M. G., Alexandra.
Butler, M. J., Kanieri.	Magnus, A., Roxburgh.	Scott, Robert, Caplestone.
Cameron, Saml., Alexandra.	Magnus, Olaf, Box 130A, Christchurch.	Shore, T. M., Queenstown.
Clarke, Ed., Port Chalmers.	Maller, John, Stillwater.	Shore, Wm., Gore.
Compton, Albert, Dobson.	Maitland, A. E., Miller's Flat.	Simonsen, Chas., Alexandra.
Cormack, W., Greymouth.	Maxwell, John, Dunedin.	Skilton, A. G., Old Diggings.
Cornish, J. T., Miller's Flat.	McClure, F. O., Rongahere.	Sigo, N. K., Ahaura.
Coutts, Henry, Miller's Flat.	McConnell, J., Cromwell.	Smeaton, S. H., Inangahua Junction.
Cowan, Alexander, Stillwater.	McCormack, D., Kanieri.	Smith, Alfred, Inangahua Junction.
Cowan, James, Nelson Creek.	McDonald, E. A., Waitiri.	Steel, Archibald, Kawarau Gorge.
*Crookston, W. L., Three-channel Flat.	McDonald, J., Sofala.	Steel, Thos., Dunedin.
Crowley, J. B., Edendale.	McDonald, Jno., Cromwell.	Templeton, Ivie, Rongahere.
*Cumming, J. C., Beaumont.	McGeorge, J., Dunedin.	*Thompson, J., Alexandra.
Cunningham, Geo., Kanieri.	McGeorge, Alexander, Dunedin.	Thompson, T., Miller's Flat.
Curtis, Chas., Stillwater.	McGregor, D., Kanieri.	Toohey, J. M., Alexandra.
Cutten, W. H., Dunedin.	McGregor, G. R., Alexandra.	Tough, John, Miller's Flat.
Deniston, R. A., Cromwell.	McIntosh, D. J., Lowburn Ferry.	Troy, G. O., Cromwell.
Dewar, John, Alexandra.	McLay, Geo., Cromwell.	Turnbull, W. D., Canvastown.
Donaldson, J. G. A., Greenstone.	McLean, D., Waitiri.	Tyson, John, Rongahere.
Edmonds, A. R., Nelson Creek.	McMath, D. O., Ross.	Von Haast, J. H., Clyde.
Faithful, Wm., Greymouth.	McMath, Thos., Alexandra.	Wallace, John A., Miller's Flat.
Gibb, Wm., Croydon Siding.	McVicar, Peter, Roxburgh.	Watt, John, Cromwell.
Gibson, A., Island Block.	Mills, Ed., Murchison.	Weaver, Chas., Alexandra.
Goodger, G. W., Waenga.	Mitchell, D. A., Dunedin.	Williamson, R., Miller's Flat.
Graham, J. M., Gore.	Morel, C. G., Inangahua Junction.	Williamson, Walter, Miller's Flat.
Grogan, Wm. A., Miller's Flat.	Morris, G. S., Cromwell.	Wilson, S. W., Waikaka Valley.
Hansen, Wm., Alexandra.	Murray, D., Clyde.	Wood, R. M., Cromwell.
Hay, James, Dunedin.	Murray, Madget, Cromwell.	Woodhouse, W. S., Roxburgh.
Hedley, A., Cromwell.	Neilson, S., Miller's Flat.	Young, Andrew, jun., Roxburgh.
Herbert, J., Beaumont.	Nicholson, W. E., Alexandra.	

Dredgemasters' Certificates, after Examination, issued under the Mining Acts, 1898, 1901, 1902, and 1905.

Anderson, Andrew, Alexandra South.	Craig, D. A., Shag Point.	Harliwick, Matthew, Roxburgh.
Anderson, Bertram, Maori Point.	Croswell, James, Three channel Flat.	Hewatson, Sydney, Nelson Creek.
Anderson, G. B., Roxburgh.	Curno, C. B., Alexandra.	Hogg, J., Nevis.
Baird, William G., Clyde.	Dalton, J. R., Three channel Flat.	Holden, Charles, jun., Cromwell.
Bardsley, John James, Cromwell.	Donaldson, John, Lawrence.	Holden, John, Cromwell.
Bishop, Hugh Arthur, Collingwood.	Dowie, Henry, Totara Flat.	Hepburn, D. O., Alexandra.
Blair, G., Abbot-ford.	Eaton, Edgar W., Alexandra.	Hughes, John L., Miller's Flat.
Borthwick, Robert, Alexandra.	Elder, D. D., Roxburgh.	Johnston, John, Maori Gully.
Burke, John, Clyde.	Faithful, Alfred, Bannockburn.	Johnston, Louis, Beaumont.
Brent, C. D., Cromwell.	Farmer, Nathan O., Miller's Flat.	Jones, David Rowland, Island Block.
Briggans, Thomas, Alexandra.	Farquharson, Geo., Alexandra.	Jones, T. R., Miller's Flat.
Briggans, William, Alexandra.	Fisher, Hurtle, Miller's Flat.	Junker, Frank J., Berlin's.
Broderick, T., Lyell.	Forno, D., Inangahua Junction.	Kane, William, Clyde.
Bruce, J. A., Kawarau Gorge.	French, T. E. K., Three-channel Flat.	Kane, William, Cromwell.
Burley, J. P., Westport.	Gibson, William H., Cromwell.	Kean, F. F., Waikaka.
Burnside, Walter, Alexandra.	Gillooly, T., Roxburgh.	Kellett, O. H., Dunedin.
Burton, A. P., Miller's Flat.	Gilstrom, Carl A., Berlin's.	Kitto, John, Clyde.
Callaghan, E., Three channel Flat.	Graham, Thomas Arthur, Gore.	Linney, William, Island Block.
Carnegy, A., Three-channel Flat.	Gunn, W. E., Beaumont.	Livingstone, D., Alexandra.
Carter, W. W., Sandy Point.	Guy, Donald, Cobden.	Lloyd, Arthur, Inangahua Junction.
Chapman, Robert, Maori Point.	Guyton, James, Dunedin.	Lloyd, Hubert, Lyell.
Clark, D., Callaghan's Creek.	Hanning, O. J., Clyde.	MacDonald, C. J., Cromwell.
Coup, George, Albertown.	Hansen, H. O., Three-channel Flat.	MacGinnis, J. A., Cromwell.
Cox, R. D., Alexandra.	Harden, J., Stafford.	MacGinnis, M. P., Alexandra.

* Deceased since issue of certificate.

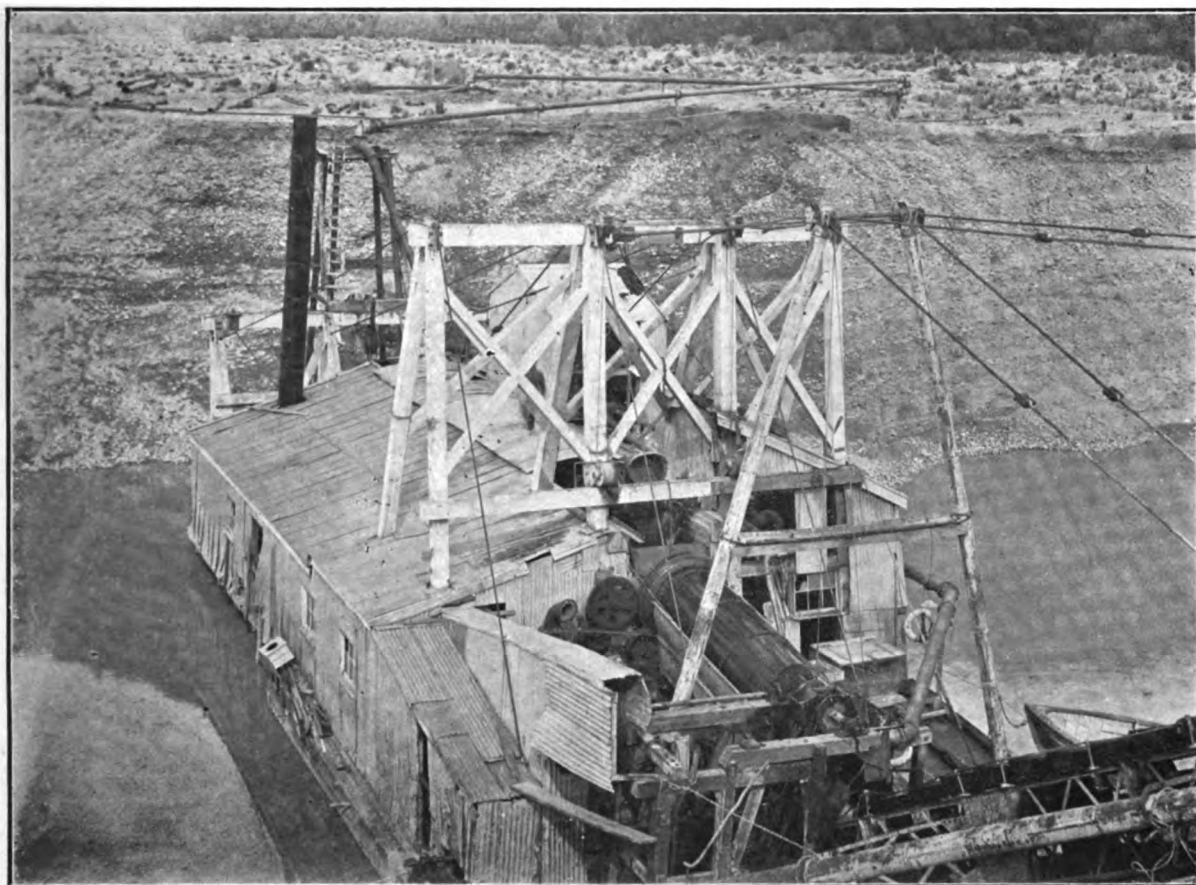
Dredgemasters' Certificates, after Examination, issued under the Mining Acts, 1898, 1901, 1902, and 1905—contd

MacLaren, John, Alexandra.	Murray, Robert John, Canvastown.	Rumble, Chas., Ngahere.
Marklund, C. O., Lowburn Ferry.	Nelson, Edgar, Brunnerton.	Rumble, Joseph, Miller's Flat.
Mathews, James Halbert, Miller's Flat.	Nelson, George L., Brunnerton.	Sanders, W. J., Ahaura.
Matthews, A. A., Three-channel Flat.	Newick, Albion Edgar Charles, Bannockburn.	Sawle, J., Cromwell.
Mavne, W. C., Nelson Creek.	Nicholson, Charles S. G., Mataura.	Sawyer, J. F., Alexandra.
McDonald, C. J., Waitere.	Olsen, Hans, Alexandra.	Simpson, Edward Robert, Cromwell.
McDonald, G., Alexandra.	Omond, Thomas, Nevis.	Steele, W. H., Miller's Flat.
McCallum, W. S., Alexandra.	Orkney, H. E., Cromwell.	Taylor, Alexr., Alexandra.
McGregor, Dougald S., Alexandra.	Orr, H. T., Cromwell.	Taylor, J. T., Dunedin.
McKenzie, John, Roxburgh.	Orr, William W., Cromwell.	Vickerman, E. M., Cromwell.
McKinnon, John, Alexandra.	Parker, P. R., Roxburgh.	Wasserbrenner, M., Alexandra.
McLean, John, Roxburgh.	Patterson, J., Clyde.	Wathen, James, Miller's Flat.
Melvin, J. R., Roxburgh.	Plumb, E. H., Maori Point.	Watson, E. H., Collingwood.
Merchant, Isaiah, Clyde.	Poppelwell, William, Alexandra.	Weir, W., Nevis.
Moffitt, R. W., Miller's Flat.	Rait, Hume, Albertown.	Wescombe, Alfred L., Island Block.
Mollison, William, Stillwater.	Ray, J. F., Bannockburn.	Westcott, P. A., Miller's Flat.
Moncrieff, Henry, Miller's Flat.	Ray, Robert Marshall, Bannockburn.	Williams, Frederick, Alexandra.
Monson, C. H., Miller's Flat.	Reiderer, Edward, Cromwell.	Wilson, George, Marsden.
Morel, A. E., Nobles.	Ritchie, William John, Cromwell.	Wilson, Stephen L., Inangahua Junction.
Morel, L. H., Inangahua Junction.	Roberts, G., Three-channel Flat.	Wood, W. W., Cromwell.
Morris, V., Cromwell.	Robertson, D. J., Alexandra.	Woodhouse, F., Bannockburn.
Munro, Hugh, Alexandra South.	Robertson, W. R., Alexandra.	Woodhouse, G. G., Waitiri.
Munro, R. F., Ross.	Rooney, J. B., Roxburgh.	Wyde, G. R., Inangahua Junction.
Murray, H. B., Cromwell.		

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Price 3s.

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GOLDEN BEACH DREDGE, ALEXANDRIA. (Worked by Water-power.)



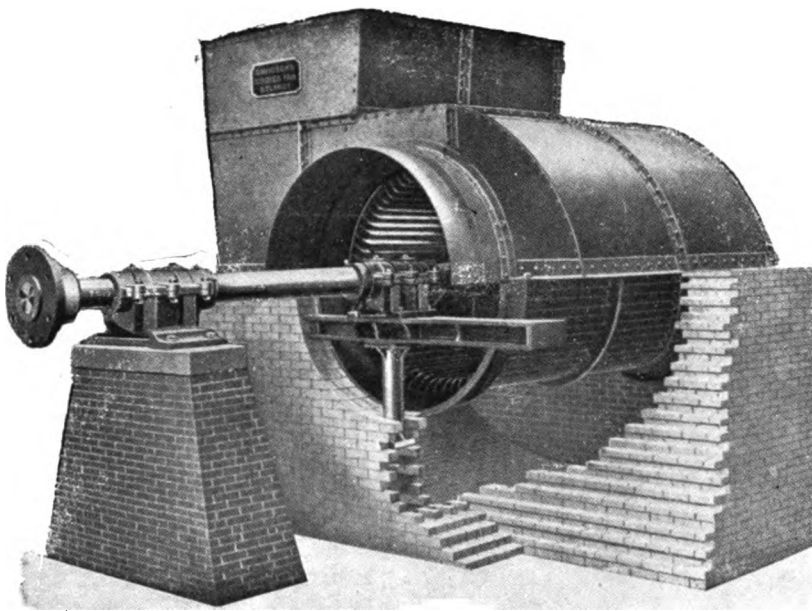
GOLD-DREDGING IN THE CLUTHA RIVER, OTAGO: THE OLD STYLE AND THE NEW.



GUM-DIGGERS AT WORK, NORTH AUCKLAND.

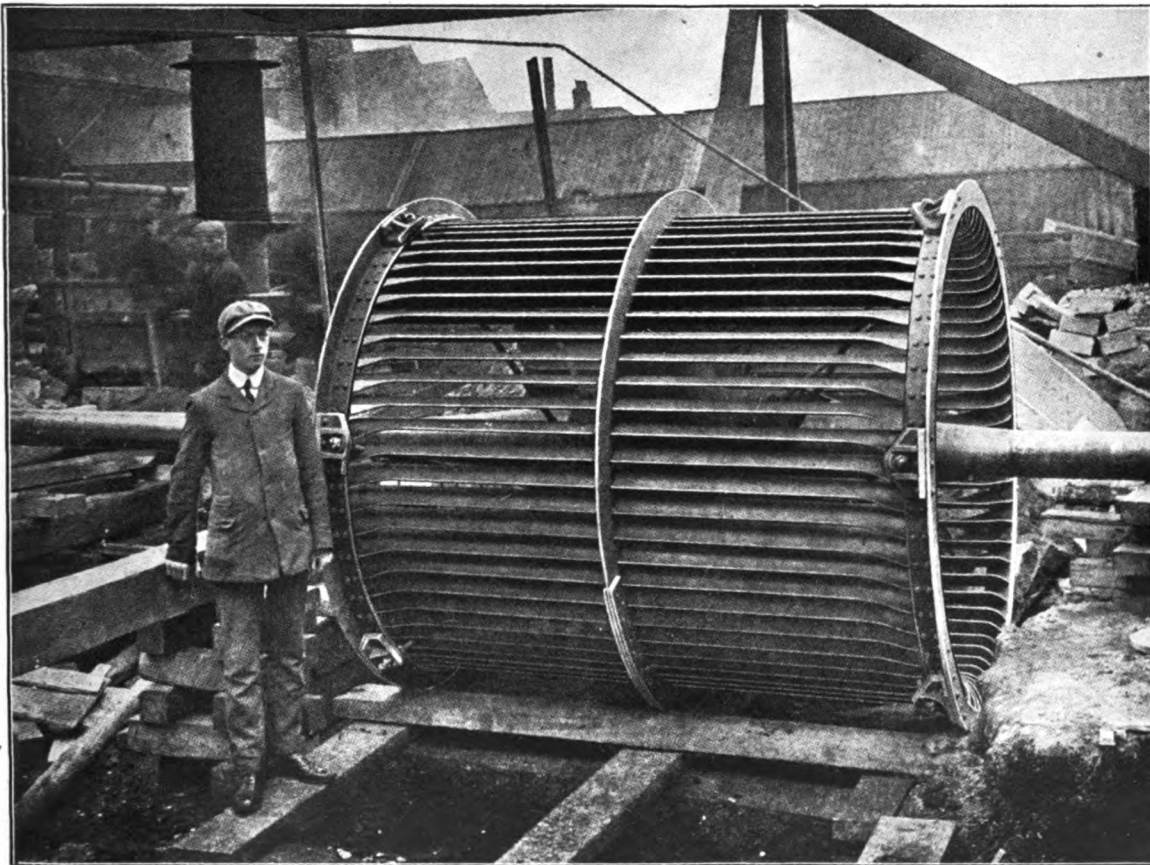


KAURI-GUM STORE, NORTH AUCKLAND.



A "SIROCCO" DOUBLE-INLET MINE-FAN.

It is claimed that a fan of this type, 100 in. in diameter, running at 220 revolutions per minute, at 3 in. water-gauge, will deliver an output of 532,000 cubic feet of air per minute.



FAN-WHEEL OF A "SIROCCO" DOUBLE-INLET MINE-FAN.

1907.
NEW ZEALAND.

INSPECTION OF COAL-MINES REPORT.

("THE COAL-MINES ACT, 1905.")

Presented to both Houses of the General Assembly by Command of His Excellency.

Mr. FRANK REED, M.Inst.M.E., Lic. Surveyor, Inspecting Engineer, to the UNDER-SECRETARY,
Mines Department.

SIR,—

Mines Department, Wellington, 11th April, 1907.

I have the honour to submit the annual reports of inspection, together with statistical information in regard to the coal-mines of the colony for the year ended 31st December, 1906.

The reports are divided into the following Sections :—

- I. Output of Mineral.
- II. Persons employed.
- III. Accidents.
- IV. General Remarks.

Appendices—

- (a.) Inspectors' Reports.
- (b.) Mine-managers' Examinations.
- (c.) Statistics of Working-collieries.

SECTION I.—OUTPUT OF MINERAL.

The output of the several classes of coal mined in each inspection district is summarised as follows :—

Class of Coal, &c.	Northern District.	West Coast District.	Southern District.	Total.
	Tons.	Tons.	Tons.	Tons.
Bituminous and semi-bituminous coal ...	120,700	956,708	...	1,077,408
Pitch-coal ... ..	...	2,957	22,004	24,961
Brown coal	180,486	3,250	337,267	521,003
Lignite ... ..	...	...	106,164	106,164
Totals	301,186	962,915	465,435	1,729,536

As compared with the output for the preceding year, the above statement shows an increase of 143,780 tons, and the comparison of the relative increase and decrease of the different classes of coal, &c., won during the year 1906 is given in the following tabulated form :—

1—C. 3A.

Class of Coal, &c.	Northern District.		West Coast District.		Southern District.		Total Increase.	Total Decrease.	Total Net Increase.
	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.			
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Bituminous and semi-bituminous coal	6,251	...	106,074	...	...	...	...	...	...
Pitch-coal ...	...	...	90	...	1,799	...	...	...	...
Brown coal ...	35,059	...	524	...	...	11,516	...	...	...
Lignite ...	...	...	...	...	5,499	...	...	...	...
Totals ...	41,310	...	106,688	...	7,298	11,516	185,296	11,516	143,780

The total number of mines returned as being worked during the year was 150, of which sixteen employ more than twenty persons, and are therefore required by "The Coal-mines Act, 1905," to be under the control and supervision of a first-class certificated mine-manager. Mines employing over six but not exceeding twenty persons number forty-three, and for their management the holders of first- or second-class certificates must be employed. For mines at which not more than six persons are employed a competent person holding a permit from the Inspector of Mines for the district may be employed.

SECTION II.—PERSONS EMPLOYED.

Inspection District.						Average Number of Persons employed during 1906.		
						Above ground.	Below Ground.	Total.
Northern	...	...	...	...	...	111	406	517
West Coast	...	...	...	...	...	731	1,313	2,044
Southern	...	...	...	...	...	332	799	1,131
Totals, 1906	...	...	...	...	...	1,174	2,518	3,692
Totals, 1905	...	...	...	...	...	833	2,436	3,269

SECTION III.—ACCIDENTS.

Summary of fatal and non-fatal accidents classified, and cause :—

	Fatal Accidents.		Non-fatal Accidents.	
	Number of Separate Fatal Accidents.	Number of Deaths.	Number of Separate Non-fatal Accidents.	Number of Persons injured, including those injured by Accidents which proved Fatal to their Companions.
Explosions of firedamp	...	...	2	4
Falls in mine ...	2	2	12	12
Shaft accidents	...	...	1	1
Miscellaneous—				
Underground	2	3	13	13
On surface ...	1	1	...	...
Totals ...	5	6	28	30

The following table shows a comparison of the output and death-rate in respect of coal and shale mines in New Zealand, and certain other countries, for the years 1904-6 inclusive :—

Country or State.	Death-rate from Accidents per 1,000 Persons employed.	Number of Per- sons employed per Life lost.	Tons of Mineral raised per Life lost.	Tons of Mineral raised per each Person em- ployed Underground.
New Zealand—				
1904	1.21	822	384,459	609
1905	1.83	546	264,293	651
1906	1.62	615	288,256	687
New South Wales—				
1904	0.847	1,180	501,651	541
1905	1.69	589	277,932	599
1906	1.38	723	364,705	650
Great Britain—				
1904	1.244	803	232,962	360
1905	1.35	740	215,515	361
Transvaal, 1905-6	3.86	643	29,289	455
United States of America, seven- teen States providing 90 per cent. total output	3.53	275	175,000	...

The following statement shows the tons of mineral raised (coal and shale), persons employed, lives lost, &c., from 1878 to 1906 :—

Year.	Output of Mineral.	Persons employed.			Tons of Mineral raised per Life lost.	Persons employed per each Life lost.	Lives lost per Thousand Persons employed.	Tons of Mineral raised per each Per- son em- ployed Un- derground.	Number of Deaths.
		Above.	Below.	Total.					
Prior ...	709,931	...	...	...	...	...	...	...	...
1878 ...	162,218	147	366	513	4,771	15	66.27	443	34†
1879 ...	231,218	...	...	802	115,609	401	2.49	...	2
1880 ...	299,923	...	...	1,038	149,961	519	1.92	...	2
1881 ...	337,262	...	...	963	337,262	963	1.04	...	1
1882 ...	378,272	...	...	1,043	189,136	521	1.91	...	2
1883 ...	421,764	361	888	1,249	210,882	624	1.60	475	2
1884 ...	480,831	393	890	1,283	160,277	421	2.34	540	3
1885 ...	511,063	338	1,145	1,483	170,354	494	2.01	456	3
1886 ...	534,353	392	1,213	1,605	*	*	*	440	0
1887 ...	558,620	388	1,111	1,499	139,655	375	2.66	503	4
1888 ...	613,895	414	1,275	1,689	153,474	422	2.36	481	4
1889 ...	586,445	466	1,251	1,717	146,611	313	2.37	261	4
1890 ...	637,397	512	1,334	1,846	79,674	231	4.33	477	8
1891 ...	668,794	416	1,277	1,693	167,198	423	2.36	523	4
1892 ...	673,315	485	1,196	1,681	673,315	1,681	0.66	563	1
1893 ...	691,548	590	1,298	1,888	138,306	377	2.64	533	5
1894 ...	719,546	506	1,393	1,899	119,924	316	3.16	516	6
1895 ...	726,654	525	1,274	1,799	145,331	360	3.33	618	5
1896 ...	792,851	590	1,347	1,937	12,013	29	34.07	588	66‡
1897 ...	840,713	531	1,381	1,912	210,178	478	2.09	609	4
1898 ...	907,033	556	1,447	2,003	907,033	2,003	0.49	627	1
1899 ...	975,234	554	1,599	2,153	325,078	717	1.39	609	3
1900 ...	1,093,990	617	1,843	2,460	273,497	615	1.62	593	4
1901 ...	1,239,686	688	2,066	2,754	413,228	918	1.09	600	3
1902 ...	1,365,040	803	2,082	2,885	682,520	1,443	0.69	655	2
1903 ...	1,420,229	717	2,135	2,852	355,057	713	1.40	665	4
1904 ...	1,537,838	763	2,525	3,288	384,459	822	1.21	609	4
1905 ...	1,585,756	833	2,436	3,269	264,293	546	1.83	651	6
1906 ...	1,729,536	1,174	2,518	3,692	288,256	615	1.62	687	6
Totals ...	23,430,955	...	...	54,895	...	...	...	...	193

* No life lost.

† Year of Kaitangata explosion.

‡ Year of Brunner explosion.

SECTION IV.—GENERAL REMARKS.

VENTILATION.

Great improvements have of recent years been effected in the mechanical ventilation of coal-mines in this country, for whereas in 1891 only three ventilating-fans were employed, during the past year nineteen were in operation, those fans most favoured being of the Waddle, Schiele, Cappell, Hayes, and Sirocco types. The last named has recently been installed at the Taupiri, Point Elizabeth, and Seddonville Mines, and it is proposed to employ it at the new Westport-Stockton Mine. The Sirocco fan appears to have solved the question of centrifugal ventilation, for its construction is simplicity itself, and its efficiency unequalled. The fan consists of a drum varying from 35 in. to 100 in. in diameter, around the circumference of which are placed steel laths so arranged as to resemble a venetian blind open at its utmost, with the laths slightly convex to the forward direction, spaced 2 in., and 3 in. deep; the usual *évasée* chimney and shutter are attached to the case in which the machine is enclosed. This fan is extensively used in Great Britain, and it is claimed that one of the type 100 in. in diameter, running at 220 revolutions per minute, at 3 in. water-gauge, will deliver the enormous output of 532,000 cubic feet of air per minute.

ELECTRICITY IN MINES.

The use of electricity, which has become so widespread in and about the mines of other countries, both for lighting and as a mode of transmitting power, has made hitherto but slow progress in the coal-mines of this country, owing probably to the fact that at many of the large mines the haulage is conducted on the self-acting principle by endless rope, and the drainage by level free adits, consequently pumping and winding from shafts is avoided. Electric lighting, however, is employed in the main roads underground and upon the surface works of several mines. At other mines less favourably situated, and where this economical power could be profitably employed, steam-power had been installed prior to the advent and more general application of electricity in mines. At the Allendale Colliery electric power for haulage, pumping, and lighting has been effectively employed for two years; at the Blackball Mine an underground pumping plant is worked electrically with satisfactory results; but at the Denniston Colliery compressed air was found to operate the coal-cutting machinery in a more satisfactory manner than electricity. At the Westport-Stockton Mine, now being opened up and equipped, it is proposed to employ electric power for coal-cutting, ventilation, lighting, and haulage, the latter by means of electric locomotives, by which it is proposed to use coal-tubs of 30 cwt. capacity, on a 2 ft. gauge, throughout the workings of the mine, which may not be found to be a success, owing to the weight and size of the tubs on steep grades.

MINING OPERATIONS.

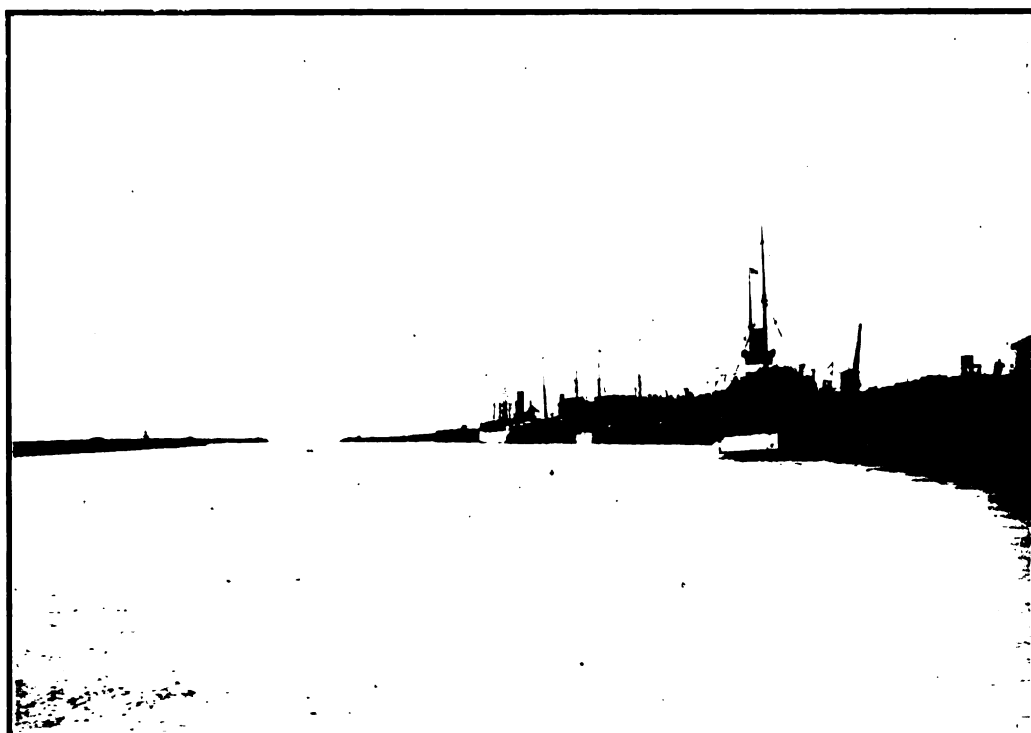
During the past year extensive preparations for an increased output were carried out on all the mining fields, and an annually increasing output of coal is assured. In the Northern District, at the Northern and Kiriapaka Collieries, and at Hikurangi, extensive new coal-areas have been entered by underground workings; at Kawakawa Colliery boring operations on a new lease have proved a 6 ft. seam at a depth of 80 ft. At Taupiri Colliery the main (Ralph's) heading on the eastern side of the railway approaching Lake Wahi has opened a large field for operations. In the West Coast District, at the Seddonville State Mine, a promising area of hard bituminous coal has been entered on the south-western extension of the cave area; the workings at the Millerton Colliery have during the year reached Mangatini Creek, on the eastern side of which the larger portion of the coal-field is situated, and upon which mining operations will shortly be directed.

The satisfactory extension of mining operations at Denniston continues in the directions of Mount William and Deep Creek, which it is proposed to bridge to facilitate haulage; likewise for a similar purpose to construct a girder bridge across the Waimangaroa River. The dip sections of the Point Elizabeth State Mine have proved an extensive area of excellent coal, and considerable reserves are now standing in pillars. In the Southern District, at Kaitangata, a new ventilating-shaft has been sunk on coal to a depth of 552 ft., at a distance of 58 chains to the east of the mine-entrance, with the workings of which it is connected. To the east of this shaft an extensive and valuable area of coal is supposed to exist.

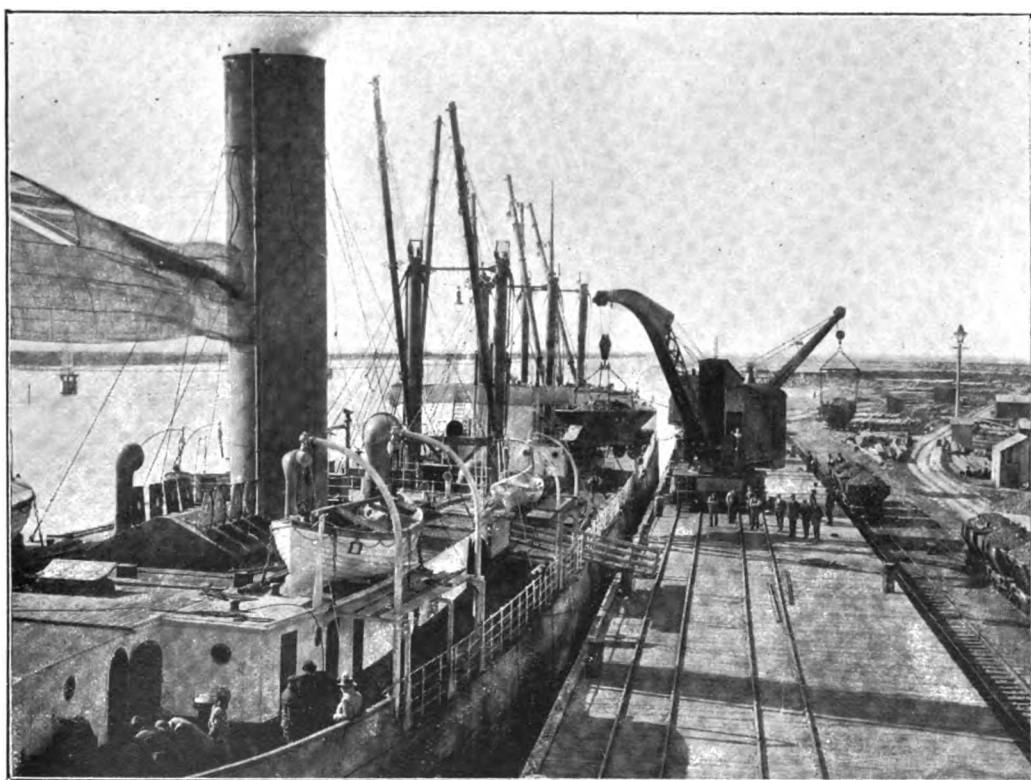
NEW COLLIERIES.

Active operations are being carried out to develop the new collieries, the property of the Westport-Stockton Coal Company (Limited), situated near Millerton, and the Paparoa Coal-mining Company (Limited), situated near Blackball. At the Westport-Stockton property, inclined and other haulage roads and tramways are being constructed. The mouth of the mine is situated at a distance of three miles and three-quarters from and an altitude of 1,600 ft. above the Government railway at Ngakawau which is a further distance of about twenty miles by rail from the Harbour of Westport. It is proposed to negotiate the distance between the mine-mouth and the top of the incline by means of an electric tramway, two miles and a quarter long. This tramway will have an average inclination of 1 in 21.2 in favour of the full train, and will be worked by electric locomotives upon a 2 ft. gauge. From the top of the incline there is being constructed an endless-rope inclined haulage-plane, in two sections, in length one mile, and half a mile, and having respectively an average gradient of 1 in 4 and 1 in 6.7, but in no place exceeding 1 in 3. It is proposed to use hydraulic brakes similar to those employed at the Denniston and Millerton Collieries, but worked by four water-cylinders instead of two, to avoid any sudden strain upon the haulage-rope and machinery.

At the new Paparoa Mine, also situated at a considerable altitude above the Government railway at Blackball, now in course of construction, the works in progress embody the construction of one mile



WESTPORT: THE LOADING-WHARVES, LOOKING OUT TO SEA.



ADMIRALTY COLLIER LOADING AT WESTPORT.

and a quarter of railway to join with the Government line, the erection of coal-bins of about 5,000 tons capacity, also 50 chains of incline on a rising gradient of 1 in 3, and a high-level rock-tunnel, the whole system to be constructed and equipped for endless-rope haulage.

A new lease of 1,785 acres has recently been taken up by Mr. Jonathan Dixon, M.E., on the coastal plain near Sergeant's Hill Railway-station, three miles from the Harbour of Westport.¹ This plain lies at the base of the hills upon which the Coalbrookdale Collieries are situated, and is bounded on the west by the ocean, to the north by the Waimangaroa River, and to the south by Cape Foulwind, and may cover an area of, approximately, twenty-five square miles. The probable existence of coal-measures under this plain has been reported upon by Sir James Hector, F.R.S., before the Royal Coal Commission, 1900, and by Mr. Alexander McKay, F.G.S., Government Geologist, in the "Geological Survey of New Zealand, 1901," and from these reports it would appear to be quite reasonable to expect a recurrence of the Coalbrookdale coal, with a westerly dip under the plain, at a certain distance from the base of the hills upon which the mines are now working. It is a question whether it is a downthrow fault or if denudation has taken place. There is no data available to go upon, but the lessee proposes to settle the point by means of the diamond drill without delay. If he is successful, an asset of great importance will be added to the mineral wealth of New Zealand.

On the Grey Coalfield, between the upper branches of Coal Creek and the Ten-mile Creek, a large and valuable extension of the Grey Coalfield has been proved by Mr. James Bishop, M.Inst.M.E. This field contains workable seams of excellent bituminous coal, the exact area of which is as yet undetermined, but is included in the State Coal-mine Reserve situated between the Paparoa Range and the ocean. This coal and that which occurs in the Paparoa Company's lease adjoining have been erroneously classed as anthracitic. An analysis of fourteen samples of this coal supplied by Mr. Bishop was made at the Colonial Laboratory, Wellington, in April, 1907, the following being an average of the results obtained: Fixed carbon, 58·15 per cent.; hydrocarbons, volatile, 36·85 per cent.; water, 2·40 per cent.; ash, 3·56 per cent.; sulphur, 0·27 per cent. The evaporative power per pound of coal was 14·70.

THE BRUNNER MINE.

The Brunner Colliery, near Greymouth, after thirty-six years' work, has ceased operations, being exhausted, having produced during this period 2,167,231 tons from 450 acres worked out. The thickness of the seam varied between 7 ft. and 11 ft., inclining at an angle of 14°, the coal (bituminous) having a specific gravity of 1·311; hence the total weight of coal in the area was about 6,641,725 tons, and the proportion extracted amounted to 32·6 per cent., which, considering the number of faults met with on the New Zealand coalfields, may be regarded as a high rate of extraction, that of the Buller Coalfield not being nearly so high, owing to faults, denudation, and to soft-coal areas. These figures may serve to form estimates for future guidance, as the Brunner Mine is the first large bituminous colliery to become exhausted, and upon which to base calculations. The percentage of extraction on the British coalfields was estimated by the Royal Coal Commission (England), 1899, to represent from 53 to 75 per cent.

THE WESTPORT HARBOUR.

This important harbour, designed by the late Sir John Coode, M.I.C.E., and constructed in its earlier stages under the engineering supervision of the late Mr. C. Napier Bell, M.I.C.E., has been workable at almost all states of the tide, the depths of water registered upon the bar ranging between 17 ft. and 26 ft. On only eight days during the year was the port unworkable.

The output of coal shipped during 1906 amounted to 607,608 tons.

The port is equipped to ship 20,000 tons per week when required. With the new collieries at present being opened up, and the increasing productiveness of those at work, annually increasing shipments from Westport are assured.

I have, &c.,

FRANK REED,

Inspecting Engineer of Mines.

APPENDIX A.

INSPECTORS' REPORTS.

Mr. JAMES COUTTS, Inspector of Mines, Thames, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Inspector of Mines' Office, Thames, 25th February, 1907.

In compliance with section 75 of "The Coal-mines Act, 1905," I have the honour to transmit the following report on the coal-mines in the Northern District for the year ended 31st December, 1906 :—

Kawakawa (Samuel Neill, manager).—There was no work done in this mine for some time after W. H. Culley relinquished the lease; but in the early part of the year Messrs. Hall and Black took it over, and, like the previous lessee, their attention has been directed to taking out the small pillars left on the outcrop of Moody's old workings, and prospecting over their lease of 70 acres. They inform me that about 1,000 ft. of boring has been done, the deepest bore reaching to a depth of 80 ft., where the seam of coal was found to be 6 ft. 1 in. in thickness. This is most encouraging, and will probably lead to a profitable area of coal being discovered. An average of three men have been employed since the present party has held the lease, and the output for the year was 275 tons.

Hikurangi Coal Company (Limited) (Moody, T. P.).—The company's operations are chiefly confined to the extension and development of the coal-area on the western side of the railway, between Waro Station and West Bryan's old coal-mine, a portion being worked under the limestone rocks. These rocks present an attractive appearance, and are greatly admired by people passing to and fro on the railway. The prospects of the seam extending in this direction are most reassuring, on account of the thickness and good quality of the coal being maintained throughout. Owing to the swampy nature of the country on the surface, a large quantity of water has found its way into those workings during the period of the floods, thereby entailing a considerable outlay and cost in pumping the water out, causing also an inconvenience by the stoppage of the various faces, and reducing the output, which is urgently required to supply the demand. The company is installing another pump in order to cope with any sudden influx of water, thus preventing the flooding of the workings in future. A fair supply of coal is still obtained from the pillars worked on the eastern side of the railway, and great care is taken in the extraction of the pillars, consequently only a small amount of coal is lost. The workings, when inspected from time to time, have always been found to be carried forward in an efficient and careful manner, and with there being very little cover over the coal the ventilation has been all that could be desired. The output of coal for the year was 52,709 tons, an increase of 2,399 tons as compared with the previous year. An average of seventy men were employed. Dividends paid by the company for the year amounted to £1,875.

The Northern Coal Company (Limited) (W. R. Dunn, manager).—This company's operations are still directed to the development of their coal-area in a north-easterly direction from the top of the self-acting incline. As the work proceeds the seam continues to maintain its uniform thickness and quality. An improvement is being made in the main haulage road, commencing at the entrance of the tunnel and extending in toward the face. This has been enlarged to a height and width of 6 ft. by 9 ft., and carried in a straight line and graded to a very slight incline, which will enable a double line of rails to be laid down, and give better facilities for getting the coal out of the mine. During the year the mine was inspected three times, and on each occasion the workings were found to be carried forward satisfactorily to all concerned, whilst the ventilation was also good. The output of coal was 46,710 tons, an increase of 8,977 tons as compared with the previous year. Sixty-five men were employed, and dividends to the amount of £2,373 16s. were paid by the company during the year.

The Ngunguru and Kiripaka Mines (E. W. Tattley, manager).—These mines are now owned by the Northern Coal Company (Limited), and are run under the last named. The operations are confined to the Kiripaka section, where a large area of excellent coal is being operated on, below the bed of the river. The seam averages 16 ft. in thickness, and the main dip is down a depth of 600 ft., from which two levels have been opened out. In the early part of the year the company decided to erect a plant capable of raising from 250 to 300 tons a day, and with this object in view a light tram-line was constructed a distance of two miles and a quarter, and a 10 ton locomotive put on to take the trucks from the mine to the wharf, where boats can lay alongside and load, thus doing away with the old method of loading with punts and frequent stoppages caused by the small tides and freshes in the river. By this means a considerable saving is effected, and a more regular supply of coal is put on the market. A boiler with a working-pressure of 120 lb. has been installed to drive a Waddell fan to ventilate the mine and also to drive the light machinery in the workshop. A Helical hoisting-engine with 10 in. by 16 in. cylinders is now being put in position. The workings and appliances as inspected from time to time were found to be safe, but the ventilation in the early part of the year was not as good as could be desired, but since the erection of the fan there is no further cause for complaint as regards the air. The output of coal was 28,617 tons, an increase of 9,026 tons over the previous year. An average of forty-nine men were employed.

Union Collieries (F. J. Tattley, manager).—The work in this company's mine has been principally directed to the extension of the headings and the bords, from which a fair supply of marketable coal has been obtained. As the plant was sufficient for all requirements for the time, no important alterations have been made beyond carrying the working-faces forward to get sufficient coal to supply the

demand ; but as the mine is well opened, a much larger quantity of coal could easily be raised if it were required. The coal having to be conveyed in barges from the mine to the railway, a distance of ten miles, and with the extra handling increases the cost of the coal by the time it is placed in the wagons, therefore it places the company at a disadvantage as compared with some other mines. When inspecting the mine, the workings and the equipments necessary for the raising and the conveying the coal to the railway were found to be safe and in an efficient state of repair. The ventilation was fairly good ; but another shaft is to be sunk to connect with the workings for an outlet, and this will also improve the ventilation. The output of coal was 19,928 tons, an increase of 3,934 tons. Thirty-four men were employed.

Taupiri Coal-mines (Limited) (E. S. Wight, manager).—Ralph's section : During the past twelve months the main dip and headings have been extended in the direction of the newly acquired lease of coal under Lake Wahi. This work is being extended with reasonable despatch ; but owing to the uneven nature of the floor a large amount of expense has been incurred by straightening the main dip in order to get a uniform grade, as this will be the future main haulage-road. The work has been carried out with very great care, and when finished will give increased facilities in bringing the coal to the shaft. The greater part of the haulage is done by the endless-rope system, which works very well, and is a great saving when contrasted with the means previously used. The portion of the seam worked varies from 7 ft. to 20 ft. in height. The coal is of a very fine quality, and when broken out with ordinary care only a limited amount of small coal is produced on account of its hardness, therefore the cost is minimum. The mine has been inspected frequently, and although there has been a number of minor accidents in the shape of men receiving cuts and bruises, yet there have been no serious accidents, and, as far as the working is concerned, there has been little cause for complaint. A fan is used for the purpose of ventilating the mine, and when driven at an ordinary rate of speed is capable of causing a larger inrush of air than is required by the Coal-mines Act. The screening plant is working very satisfactorily, and has been a great saving by enabling the company to classify and deliver the coal into the railway-wagons at less cost than hitherto, and gives more satisfaction to consumers. The output of coal for the year from this section totalled 88,856 tons, and 159 men were employed.

The extended section : Some extensive improvements have been effected during the year, and with the completion of the screening plant, the erection of a new and first-class ventilation fan, a "Sirocco" 50 in. diameter and driven by a 54-horse power compound steam-engine, the extension of the main-dip headings, and other development-work, this section of the company's mine may be considered a valuable property. For the year an average of ninety-three men were employed and 57,500 tons of coal produced. This is no mean output, but with the improved facilities a greater quantity could be delivered if required. The ventilation is good ; the fan is causing 35,500 cubic feet of air to circulate through the workings, and with a slight improvement in the airways a much larger volume may be circulated. An endless-rope haulage system was installed at this mine, driven by a pair of engines, 12 in. diameter, 30 in. stroke, placed on the surface, connected with the mine by means of boreholes lined with iron pipes, through which the rope passes.

Taupiri Reserve : It appears that this section of the company's mine is kept as a reserve, so that in the event of an increased demand for coal the company has this section to draw upon. The mine has been kept open and drained throughout the year, and an average of eleven men employed in keeping the workings and machinery in good order and producing 6,158 tons of coal, which is a sufficient quantity to comply with the terms of the lease. The coal is of a good quality, and there is yet a large amount in sight. The mine when visited was found to be in good order, with a sufficient volume of air passing through the workings. The total output for the year for the Taupiri coal-mines was 152,588 tons, being an increase of 33,967 over the preceding year, whilst dividends to the extent of £6,375 were paid.

Drury Colliery, Drury (J. Holden, manager).—The work carried on in this mine during the past twelve months has only been very little, as the company decided to combine brickmaking, &c., on the mine with a view to making the mine a success ; and as kilns had to be constructed, and machinery placed in position for this purpose, the men have been chiefly employed at the brickworks. The coal is of a poor quality, and will not compete favourably on the market with coal from the other mines in the district, but no doubt a fair quantity will be used at their own kilns. The output was 595 tons, and four men were employed.

Taupiri South (J. Duncan, manager).—The company has done but little work in this mine. Their attention has been directed to that portion of the property near the top of the spur of the hill, where at one place opened out in the early part of the year 2,856 tons of coal was obtained ; but as this place became exhausted another drive was put in the hill and 275 raised. Since then a good deal of prospecting-work has been carried out, but not with as favourable results as anticipated, and it is said the company are likely to stop operations for the present. Five men were employed.

Taupiri West Coal-mining Company (Limited) (R. McEwen, manager).—This is a new coal-mine, the property being situated on the western side of the Waikato River, and about a mile and a quarter from the Huntly Railway-station. The greater portion is on Crown lands held on lease from the Government, and includes coal under Lake Rotoiti and the larger part of that under Lake Wahi, altogether about 1,050 acres. A considerable amount of prospecting has been done by the original syndicate who first took it up in the shape of boring, and who discovered two different seams of coal, the top seam being 10 ft. thick and the main seam about 24 ft. The prospects met with being very satisfactorily, the shareholders determined to sink a shaft, which has reached a depth of 180 ft., where the seam was cut through and the coal found to be equal to the best local production. A small oil-engine was used for the hoisting of the stuff broken in the shaft and for baling the water out to the depth named ; but the prospects were such as to encourage the directors to obtain modern winding and pumping machinery, and a powerful winding-engine and plant have been purchased, and are being

removed to the mine, where they are to be erected with all possible speed. As the land adjoining this property is held by persons who hold the freeholds, a little delay may be caused before arrangements can be made with them to allow a tram-line (aerial) or a tramway to be constructed over their land, but it is not expected that any obstacle will be placed in the way of accomplishing one of those things to connect with the Government railway at Huntly, and when completed will to all appearances prove a profitable concern. Eight men were employed.

Mangapapa (Mokau Coal-mine) (William Lennox, manager).—There is little new to report from this mine, as the work carried on during the year has been confined to extending the various bords and headings to get sufficient coal to supply the demand, which is only very limited, owing to the great disadvantages in the transport of the coal from the mine to Waitara and New Plymouth. The steam-boats which run up to the mine can only carry from 40 to 60 tons coal, and seldom exceed two trips in the week, as they have to be run to suit the tides, and one steamboat is sufficient for present requirements. The output of coal was 4,244 tons, a slight increase of 491 tons as compared with the previous year. When last inspected the workings were safe, but the ventilation was not as good as could be desired, and it was pointed out to the manager that another shaft should be sunk. When this is done a more regular supply of fresh air will be circulated in the mine. From ten to fourteen men are employed.

The total number of days men who were injured in the Taupiri coal-mines were off work and received the usual weekly allowance through the Waikato Medical and Accident Society, Huntly, was 1,366 days, at 2s. 1d. = £142 5s. 10d.

I have, &c.,

JAMES COUTTS,
Inspector of Mines.

Mr. ROBERT TENNENT, Inspector of Mines, Westport, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Inspector of Mines' Office, Westport, 28th March, 1907.

I have the honour, in compliance with section 75 of "The Coal-mines Act, 1905," to report as follows on the West Coast coal-mines for the year ending 31st December, 1906:—

Enner Glynn Coal-mine.—There has been no further effort made on this property towards the discovery of coal.

Shakespeare Bay.—Prospecting for coal is now discontinued.

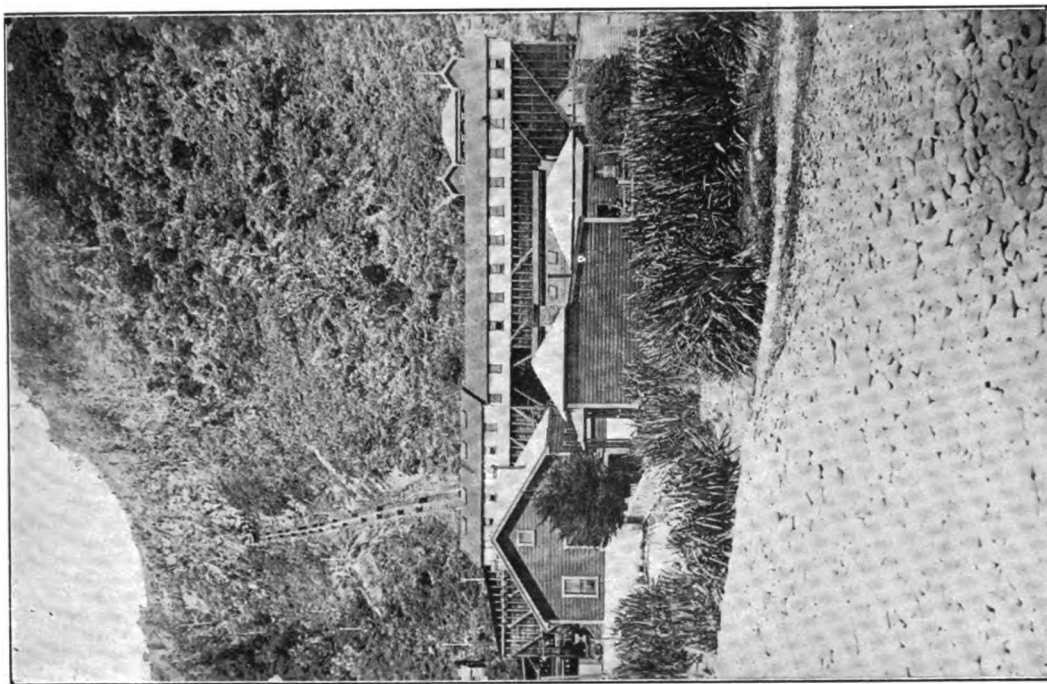
Golden Bay Coal-mine, Motupipi.—(1/11/1906): During the year mining on this property has been practically at a standstill, with the exception of unwatering the dip-tunnel for the purpose of taking 10 tons of coal and 10 tons of fireclay, the latter for a bulk trial for clay goods.

Pakawau Coal-mine (owner, E. G. Pilcher, of Wellington; P. McCaffrey, mine-manager).—(27/10/1906): Coal was taken from the dip-working until the 27th November, 1906, on which date mining was suspended and the pump withdrawn, pending completion of the low-level rock-tunnel, which was then driven 330 ft. Driving is continued on three shifts, and ventilation is well maintained and kept forward on the face with properly made canvas tubes. Reports kept to date. Plan of the dip-working was furnished up to date of suspension.

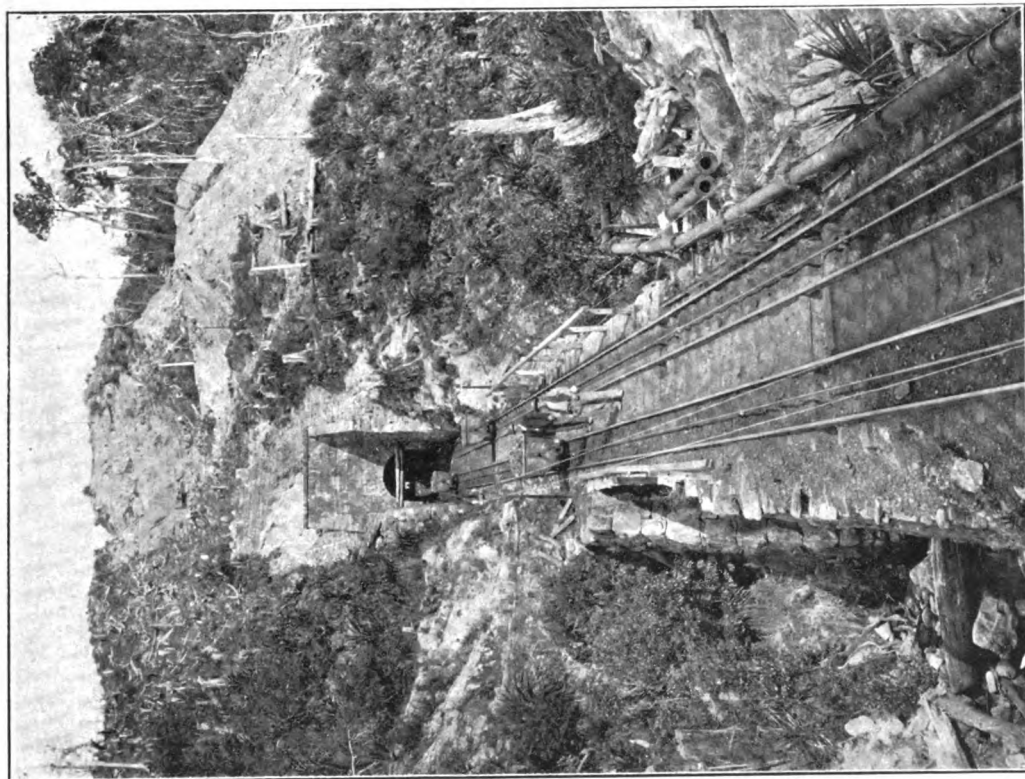
Puponga Colliery (owners, Puponga Coal and Gold Mining Company (Limited); Mr. Sydney George Hayward, attorney).—(26/10/1906): Although mining operations have been steadily maintained during the year, output shows a decrease of 1,927 tons as compared with that of the previous year. Pending additional pumping-power, extension of the main-dip haulage-road was not continued further, development being confined to the eastern and western sections of working. On the eastern district working-conditions are well maintained, while quality and thickness of seam show no depreciation. In the beginning of the year the connections necessary to maintain free ventilation to the bottom levels were satisfactorily completed on the west district, and considerable attention directed to heighten and secure the upper levels preparatory to open out the face on long-wall system, extension of face necessitating the removal of several small pillars. When last visited, a compound pump of large capacity had arrived from Home, and was placed in temporary position, awaiting the arrival of pipe-line connections. Capacity for the storage of water is amply provided, and the drainage leading to the pump connected by a short underfoot rock-tunnel. Steaming-power is also efficiently supplied by the addition of a new 40-horse power multitubular boiler, now operative. Since the late improvements in connection with screening and washing the coal were completed, inquiry is more urgent for smaller sorts. Ventilation (fan) is efficient, and timber plentiful for all classes of work. General equipment in good order and reports to date. Arrangements to deepen the shipping channel have been completed, and dredging is now operative in forming a basin at the point of the jetty. On completion of this work, shipping movements should be greatly facilitated.

Mokihinui Colliery.—Since the management of the Seddonville State Colliery withdrew all movable plant, and securely fenced off all entrances to the mine-workings, further work has not been resumed. The burning section of the upper mine continues in a smouldering condition.

Westport-Stockton Coal Company (Limited).—Mr. George Broome, mining-engineer, under whose direction Mr. G. P. Robertson, of Christchurch, was appointed general surveyor and draftsman, work in this department being greatly facilitated by the engineer's former surveys and general knowledge of the property. Since charge was taken in December of 1905 development has been actively pushed, and the surveys completed in February enabled the contractors to commence driving A and B tunnels (coal) in the beginning of March. In laying out these continued series of drivings, which intersect the



WESTPORT COAL COMPANY (LIMITED): MILLERTON COLLIERY.
BINS AND SCREENS.



WESTPORT COAL COMPANY (LIMITED): MILLERTON COLLIERY.
PORTION LOWER INCLINE.

whole coal-bearing country, special care was taken to keep the various tunnels, named A, B, C, and D, in one continuous course, which, when completed, will cover a total distance of 171·5 chains, work being continuous by three shifts of workmen, Sundays and holidays excepted. A tunnel, 14·5 chains, was completed in September. B tunnel, driven 38 chains on the north end and 8 chains on the south end, leaving 19 chains yet to complete on Mangatini Creek. C tunnel intersects the coal-basin between Mangatini Creek and Ford Creek, a total distance of 36 chains, of which 16 chains are driven. D tunnel is driven but a few chains, and meanwhile awaits ventilating plant when available from the other drivings, when the proposal is to extend the tunnel to the boundary of the lease, a distance of 66 chains, before starting to open out and market the coal, in order that the "instroke method" of working may be adopted. The principal advantages claimed for this method are—(1) Greater safety and yield of round coal in extraction of pillars, as directly the bords are driven the pillars are removed, instead of standing for years to support the roof, which causes general deterioration.; (2) reduced cost of maintenance, as the maintaining of roads through broken ground is avoided; (3) danger from spontaneous ignition is reduced to a minimum; (4) increased ability to maintain a steady output of uniform quality. The "instroke method" of exploitation, although well known and practised in the Old Country, is quite new to this colony, and should tend towards safe and economical extraction. Altogether, these coal-tunnels aggregate a driven distance of one mile, proving a large area of hard, bright coal of excellent quality, with an average thickness of 12 ft. Throughout the whole series the headings have been driven next to the hard solid roof, and it is notable that not a single set of timber has been required. The average gradient is 1 in 17 in favour of the load, the maximum gradient 1 in 10. As all works are heading riseward, natural drainage will be assured over the whole field. Ventilation has been efficiently induced throughout by means of No. 5 Sturtevant fans, driven by Tangye oil-engines of 2½-horse power each, exhausting through iron pipes of 12 in. diameter, kept well up to the face. In B tunnel 34 chains were driven in this way until relieved by a 5-ft.-diameter shaft, sunk from the surface through 93 ft. of strong sandstone cover, the fan and engine being then removed to the shaft. From the mine-mouth to the bin-site at Ngakawau the total distance is about three miles and three-quarters, with a fall of 1,600 ft., and from the same point an electric tramway is being constructed to the brake-head at the top of the inclines. The length of this tramway is two and a quarter miles, with an average gradient in favour of the load of 1 in 21·2. One mile of this tramway is practically completed and contracts let for the remaining sections. From the brake-head to the bins the distance will be covered by two well-graded inclines, with an aggregate length of a mile and a half, having a fall of 1,037 ft. The upper incline, 40 chains in length, has an average gradient of 1 in 6·7; maximum gradient, 1 in 5; the lower incline average gradient, 1 in 4; maximum gradient, 1 in 3. The lower incline is nearing completion, and on the upper work is well advanced. Both inclines are to be worked on endless-rope system of haulage, and the motion regulated by two separately installed four-cylinder hydraulic brakes. To connect the traffic from the lower incline at Mine Creek with the screening and loading plant on the railway-siding at Ngakawau a rock-tunnel, 28 chains in length, is now being driven from both ends by three shifts of workmen, on a gradient of 1 in 63 in favour of the load. Of this work 16 chains are completed, while 12 chains are yet required to pierce the ridge. Traffic on this section of way will be conducted by electric locomotive haulage. The company proposes to construct extensive siding accommodation at Ngakawau, equipped with up-to-date screening and handling plant, with storage-capacity of 5,000 tons; also to erect a central electric-power station to supply current for the whole mine and works, the electric power to be employed for coal-cutting, haulage, ventilation, lighting, and other purposes. Tenders are invited for the whole plant required.

Millerton Colliery (owners, Westport Coal Company (Limited); Mr. George Fletcher, mining-manager).—(15/11/1906): In comparing the commercial demands on the colliery against those of the preceding year, the gross tonnage sold—266,529 tons—was an increase of 27,684 tons, and, in addition to the figures stated, 3,701 tons were consumed as fuel at the mine. Development and general equipment continue to be efficiently maintained.

East Dip section: Respecting the efficiency and safety of this sealed-off district, the walls are examined daily, and proper tests taken of the pent-up gases.

Mine Creek area continues to be the chief centre of production, hardness and quality of seam showing no depreciation. Apart from the ordinary routine of operations in connection with the solid working and removal of pillars, fresh development affords little subject-matter of special importance; ventilation, timbering, and free drainage are strictly observed as leading factors of safety and economy. In October last the main south heading was successfully holed on the Mangatini Creek Gorge, with the object of winning the major portion of the coalfield on the eastern side of this deep ravine, the bridging of which will necessarily entail considerable labour and expenditure.

New Tunnel area: Driving is actively pushed from the main west heading to effect permanent connection and prove an approximate area of 23 acres, located between the Mine Creek workings and the haulage terminal of this area. So far quality of coal is satisfactory.

New works completed during the year comprise the construction and completion of two dams for the conservation of water at Millerton, together with the necessary pipe-line connections suitable to meet the increased power required in driving the newly installed travelling belts in connection with the sorting and loading station at Granity. At the power-stations located at Mine Creek and the lower mine-mouth, further additions of machinery are unimportant, the ventilating-fans continuing to maintain their high efficiency.

Reports and all provisions of the Act are strictly observed. Throughout the year the reports made by the Inspectors on behalf of the Miners' Union have been highly satisfactory. No serious accidents reported, neither was heating or gas found in the disused areas.

Denniston Colliery (owners, Westport Coal Company (Limited); Mr. J. Dixon, mining-manager).—Commencing the year 1906, the output was maintained by single shift until May, after which period the Ironbridge Mine was worked double shift during the remainder of the year, output showing 49,286

tons in excess of that of the preceding year; the quantity of coal lowered down the company's inclines for shipment amounted to 310,000 tons. Generally, the mines continue to develop satisfactorily, while the development effected confirms the fact that the present productive capacity will continue well into the future.

Coalbrookdale Mine.—(22/11/1906): Throughout the various working-districts of this mine a satisfactory standard of efficiency has been maintained, and extension continues to expose coal in fair quantity and quality. Endless-rope haulage having been extended into a central position of the Cascade Dip working, hauling operations are thereby much simplified. In the early part of the year fire, the result of spontaneous heating, was discovered in an incipient stage in the West Cascade section of pillar-working, but the prompt and effective measures taken to fill away and send out all heated *débris* from the mine, further danger was avoided.

Munsie's section: In this section all the solid working that was deemed advisable to win from the present adit has been finished for some time, output being wholly maintained by the removal of the dip roadway pillars. However, in order to maintain the productiveness of the property, surveys have been completed preparatory to commencing the necessary rock-tunnelling operations in connection with the future development of the Whareatea lease. Owing to scarcity of labour, certain proposed works have been much retarded during the year.

Ironbridge Mine.—(23/11/1906): The development of Dundee Dip section has not proved a success, the seam being interrupted by a number of small faults, which hamper the work and affect the cost of production; but it is worthy of note, the normal thickness of seam is showing more favourably in the direction of Mount William.

Kiwi section, situated on the north bank of the Waimangaroa River, continues to yield a fair proportion of the output, the quality and thickness of seam being well maintained.

Old shaft-workings: The prospecting-work so far carried out has proved an important additional area of first-class workable coal, with a thickness of 14 ft., which in future operations will form a strong factor towards the productive capacities of the Ironbridge Mine.

Deep Creek area: In connection with the development of this section of the coalfield, the intended haulage-road, which junctions with the main underground haulage, has been driven out to the Waimangaroa River, where preparatory work is in progress towards the erection of a girder bridge; but before the coal-outcrops are reached a further extension of rock-tunnel will be driven, and Deep Creek bridged. As an evidence of the advanced condition of exploration-works, an increased percentage of the total output was won from solid working, thus showing that the pillared areas are closely followed up.

New works: Haulage system—The main haulage system leading from the Wooden Bridge, Burnett's Face, to the brake-head, Denniston, a distance of 120 chains, is now controlled by a newly erected steam-driven double-cylinder haulage-engine, the constant power exerted being a dead pull of 40 tons. The new storage-bins erected at the brake-head, with a calculated capacity of over 2,000 tons, are now equipped to clean, grade, and load the coal into railway-wagons.

The records kept at the respective mines of shots fired show a total of 46,191 shots, giving an average of 6.89 tons of coal produced per shot.

Working-conditions have maintained their former efficiency in ventilation and timbering, together with the requirements of the Coal-mines Act.

Coal Creek Coal-mine, Buller Road (George Walker, lessee).—(19/12/1906): All operations are suspended. Entrance to the mine was partly blocked by a fall of loose earth, which formed a partial dam against the mine-water.

White Cliffs Coal-mine, Buller Road (Job Lines, lessee).—(19/12/1906): The limited supply of coal is confined to dredge requirements, the coal being chiefly taken from the extraction of pillars.

Flaxbush Coal-mine, Three Channel Flat (De Filippi, owner).—(18/12/1906): The supply of coal is still confined to the Mokoia and Feddersen dredges. Working-conditions are in good order, and timber freely used to secure the exhausted ground.

Bourke's Creek Coal-mine (owners, Cairns and McLiver).—(14/12/1906): Operations at this mine are somewhat limited, as the coal formerly worked on the terrace lands has failed to show any signs of improvement, either in hardness or quality. However, in order to acquire a better share of local trade, the party is actively engaged in constructing a roadway to develop a 6 ft. seam of better quality.

Lockington's Leasehold, Bourke's Creek, Reefton.—(14/12/1906): Operations were suspended the whole year. The coal-seam is practically valueless, with excessive pyritic stone. Plant and working-conditions are in good order.

Archer's Freehold, Capleston (F. W. Archer, owner).—(14/12/1906): The removal of pillars in the No. 2 tunnel continues to be the chief source of supply. However, as this section of pillar-working is nearing exhaustion, rock-tunnelling was commenced to win the bottom seam. On a later visit the seam was struck, showing coal of excellent quality and hardness.

Coghlan's Freehold, Capleston (J. Coghlan, owner).—(14/12/1906): The supply of coal continues to be taken from the rise mine. Considerable work has been done to exploit the seam on lower levels, but the prospects are not favourable towards further expenditure.

Waitahu Coal-mine, Reefton (J. O'Donnell, owner).—(14/12/1906): With the severe faulting met with in No. 1 section, together with the continued soft character of the coal riseward, operations were suspended and attention directed to develop a 6 ft. seam on a lower level. In opening out this seam, hardness was a marked feature until change of conditions was effected by a "thinning" and soft fireclay roof, which requires close timbering. For household purposes the coal is excellent, but cost of working is much increased by the high percentage of small coal.

Reefton Coal Company (John Harris and party).—(13/12/1906): Coal is taken from two rise levels on No. 2 section, but the pyritic-stone bars maintain a strong and formidable position in the seam.

In view, however, of producing a more suitable coal for household and general requirements, No. 3 rock-tunnel has been reopened, and driving continued to win the seam on lower levels. The tunnel is securely timbered.

Murray Creek Coal-mine (J. Billet, owner).—(17/12/1906): Open face—The stripping is sluiced off and kept well in advance of the face. The supply of coal is chiefly used for steaming purposes at the Golden Fleece battery and Energetic Mine.

Phoenix Coal-mine, Reefton (John Knight, owner).—(27/12/1906): This elevated coal lease of 15 acres, situated near the head of Murray Creek, contains two coal-seams of excellent quality, with an average thickness of 20 ft. each, and angle of inclination 1 in 3. The seams are parted riseward by a thin clay band, which thickens dipward. The coal-seam, which has the reputation of a first-class article, is easy of access. Coal has been obtained therefrom during the last thirty years, consequently the lease is practically riddled with old drives. About eleven years ago a central section of working was lost by creep, and never again reopened, and during the heavy floods in June of 1905 the thin and broken overburden finally crushed down the whole of the working and pillar areas, with the subsequent result that a large section of the road leading to the Inglewood Mine subsided. This movement of the underlying strata seems to have continued, and on the 26th December spontaneous fire suddenly burst through the fallen ground. Under my supervision, between the 27th and 31st December, three formidable fires were encountered and subdued; but later on smoke has commenced to show through the surface over the old creep-working. The party having spent considerable time and labour in suppressing the open fires, a subsidy to the extent of £1 for £1 up to £50 has been granted to divert a small creek over the lease. Coal-mining on the property is meantime suspended.

Lankey's Creek Coal-mine, Reefton (owners, Pascoe and Watson).—(13/12/1906): Since this party was reconstructed development is more promising, particularly in connection with the surface works. The tramway connecting the mine with the surface incline has been thoroughly overhauled and relaid with steel rails. The brake arrangements are rebuilt, and useful improvements made on the incline. Thickness and quality of seam are well maintained on the western section of the lease, and a heading is now in progress to connect with an open section of old working, which will further extend and facilitate operations.

New Inkerman Coal-mine.—All operations here are abandoned.

Devil's Creek Coal-mine, Reefton.—Since last report there has been nothing further done on this property.

Progress New Coal-mine, Reefton.—(17/12/1906): Since the present section of working was opened by the new rock-tunnel, coal-getting has been much simplified, and ventilation is well maintained through the various openings on the outcrop. Timber is freely used where required, and the general workings are in good order. The coal is exclusively used at the Progress Mines.

Loughnan's Coal-mine, Reefton.—This property changed hands during the year, and under the new ownership was shut down.

Blackball Colliery (owners, Blackball Coal Company (Limited)).—(11/12/1906): Operations are continued on single shift, the output showing an increase of 8,974 tons against that of the preceding year. Underground and surface development are unimportant. The recent equipment of endless-rope haulage, free drainage, and mechanical ventilation are in every respect efficient to meet all present and future requirements necessary to exhaust the newly opened section of dip-working. During the working-out of the rise areas, which extended over a considerable number of years, spontaneous combustion has been a continuous source of danger, causing a ruinous expenditure in the working of the property; but on exhaustion of these areas in March, 1906, precautionary steps were taken whereby all connections between the rise and dip workings were effectively sealed off by the construction of three strongly built brick and cement dams, capable of raising the mine-water over the whole heated areas: thus safety is assured against any possible spread of fire extending from the exhausted ground. Guided by the experience gained in the exhaustion of the rise areas by the ordinary bord-and-pillar work, the management has decided to exhaust the dip areas by the more improved "panel system," the system of ventilation installed being highly suitable and effective to sweep off any resultant gases that may occur through the outbreak of fire in any one panel directly into the main return airway without risk to life or property. In blocking out the field the panels have each a measured area of 200 yards by 160 yards, the panel being exhausted in the first working and accordingly sealed off. Apart from the more direct action in dealing with the exhausted ground, the working economy claimed is—full advantage gained in the first timbering, a higher percentage of round coal, with largely improved working-conditions, and minimum of risk. Regarding the development of this district of dip-working, the field is opened westerly by two main levels, driven in parallel lines from the bottom of the dip rock tunnel for a distance of 61 chains, the seam still continuing to maintain coal of excellent quality. Rising from the main haulage road, the winning headings which intersect the field and connect the intake and return airways are firstly holed and completed for free ventilation before the ordinary work of getting coal is commenced. Hence, all smoke from explosives and other gaseous impurities are swept directly into the return from each separately ventilated district. On the whole, working-conditions are simple and well regulated. The provisions of the Act are strictly enforced, and all reports kept to date. Average ventilation by Capell fan, 50,000 cubic feet per minute, circulating over a total of seventy-nine men employed underground. Mean velocity of air-current in fan-drift, 926 ft. per minute. No serious accidents reported.

The Paparoa Coal-mining Company (Limited).—(7/1/1907): Mr. Ashley Hunter, C.E., kindly provides the following brief *résumé* of proposed works: The number of workmen actively engaged on this mine is 130, and the varied works actually in progress include bushfalling, the formation of railway-line, roads, and tracks on the property. These, together with the erection of suitable camp accommodation for the workmen, and certain preparatory works incidental to pushing on with the inclines and

tunnels, constitute the whole works in progress. The main features of the works embody the construction of a mile and a quarter of railway to join with the Government line (now under construction to Blackball), together with ample siding accommodation, the erection of coal-bins of about 5,000 tons capacity, 50 chains of incline on a rising gradient of 1 in 3, and a high-level rock-tunnel, of which length and gradient are not yet determined, the whole system to be constructed and equipped for endless-rope haulage. In addition to the work stated, prospecting is vigorously pushed, in order to expose and define the various coal-seams more fully than has been hitherto done. (Mine-manager, Mr. J. T. Watson, late Assistant Inspector of Coal-mines, New South Wales.)

Tyneside Proprietary Company (Mr. R. Alison, mining-manager).—(7/12/1906): To meet the pressing demands on the Brunner coal double shifting became an urgent necessity. Under these conditions output was well maintained, and although fresh developments were not important, the gross tonnage raised (61,547 tons) showed the substantial increase of 17,500 tons when compared with that of the preceding year. Working westward from the main haulage road, the whole line of face was compulsorily abandoned on the boundary of the River Grey, but not until ample provision was made for the circulation of free and reliable air-currents (without brattice) against any probable accumulations of gas. Pumping still continuing to be a formidable tax on the property, extension of the dip-working failed to make any further progress, and in consequence output is chiefly maintained from the upper levels on the eastern section of the field. Progress, however, is being made riseward, and a holing is early expected whereby ventilation will be induced from daylight direct on the working-face. Fortunately, the urgency of increased pumping-power has been seriously considered. A plant of large capacity has just arrived from Home. The screening, sorting, and storage of coal has received further attention, and demands on the colliery are more urgent for all classes of coal. Monthly inspections are regularly made by the workmen in accordance with the Act, and the reports are honest and truthful records. William Morris (jun.) was killed in the face by a falling prop. Reports to date, and seven inspections made.

Brunner Mine (Mr. R. Alison, mining-manager).—(7/12/1906): The history of this old-established and notable mine commenced in the year 1870, and terminated by its total exhaustion and abandonment on the 22nd December, 1906. During the period stated the gross tonnage raised was approximately 2,167,231 tons, and, as taken from the colliery-plan, the exhausted and proved barren areas of the coal lease may be roughly estimated at 450 acres. In the matter of exhaustion, the coal-seam was practically worked to daylight, with the exception of a few standing pillars to support a certain section of the elevated terraces, so that the Mines Department and colliery management are fairly assured against any argument that may in future be raised on the matter of partial exhaustion. At the coke- and brick-making industries change of output is not likely to occur for several years to come, as raw clay is well provided on stock, and coal for coking purposes will be supplied both from the St. Kilda Mine on the Brunner lease and the Tyneside Proprietary.

The St. Kilda section of the Brunner lease, located on the north bank of the Grey River and near the upper end of the Brunner Gorge, was firstly opened by Mr. Martin Kennedy, and after a short period of prospecting operations was subsequently abandoned. The existing company, however, has recently opened the mine and carried out some useful developments, which have provided employment for a goodly number of resident miners formerly employed in the old mine. Coal of suitable quality is thus supplied for the manufacture of coke, the properties of the coal being soft and free from earthy impurities. As a means of conveyance from the mine, the original horse tram-line was reconstructed, and a shoot erected near the coke ovens for the delivery of the coal.

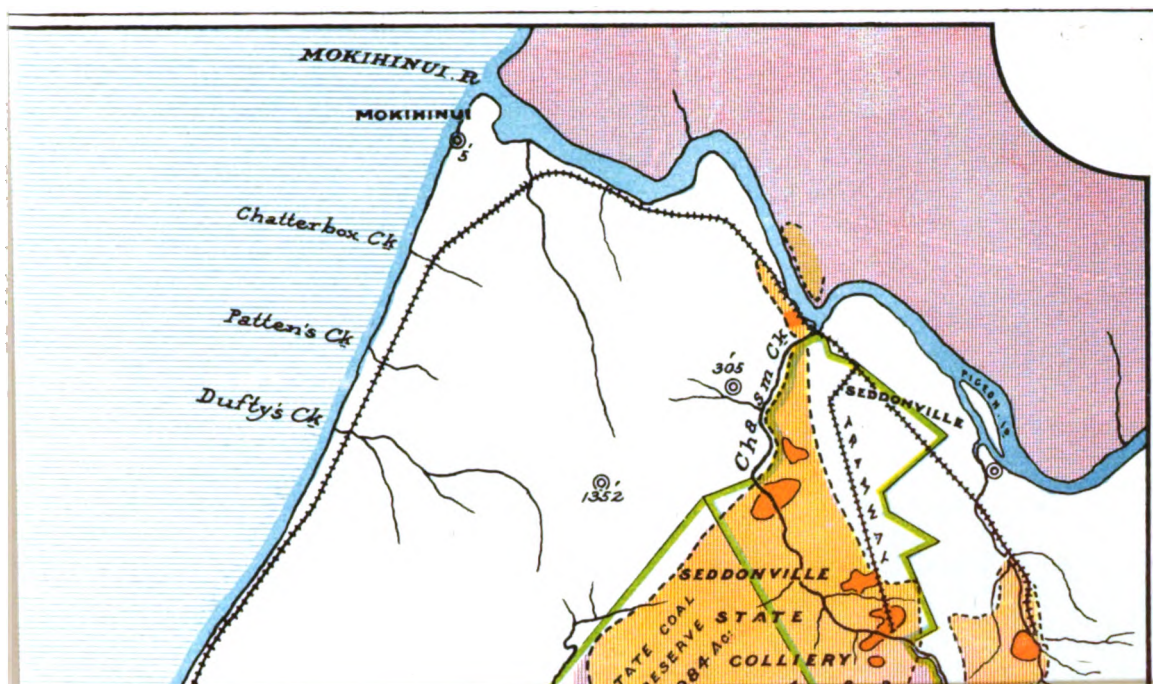
Fleming's Coal-lease, Stillwater.—On commencing mining operations, this lease was opened by a rock-tunnel, 6 ft. by 5 ft., driven in the terrace which forms the western boundary of the Stillwater Valley, and at a point about 100 yards from the Midland Railway. The total drivings as shown by colliery-plan are as follows: Rock drivings, 919 ft.; coal drivings, 252 ft.; sinking and raising on coal, 120 ft.: total, 1,291 ft. The average thickness of coal-seam may be taken as 2 ft. 4 in.; quality, soft; angle of inclination, 1 in 1 nearly; and at a depth of 66 ft. below the main level, thickness of seam was 2 ft.; practically valueless. To further extend development in the locality selected there certainly can be no hope of encouragement, as the geological features of the field are seriously against promise in that direction. Total coal raised for 1906 (from all work) was 130 tons. Operations were suspended on the 5th March, 1907, pending further instruction.

Nine-mile Beach.—This property, worked by John Kane, of Greymouth, was not visited.

COAL-MINERS' ACCIDENT RELIEF FUND, ADMINISTERED UNDER THE COAL-MINES ACT.

Where the funds are managed under medical associations the following table shows the contributions paid by the various coal companies, the balances credited at the Post-Office Savings-Bank, the amounts expended on accident allowance, and the increase on fund for the year 1906 :—

Name of Colliery.	Contributions.	Balance in Savings-Bank.	Accident Allowance.	Increase.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Denniston	608 15 1	5,101 9 10	452 7 0	302 19 11
Millerton	525 8 5	2,120 13 8	439 12 4	147 9 11
Blackball	142 5 5	926 5 9	60 4 3	95 4 7
Brunner and Tyneside ...	199 12 6	1,010 16 9	128 12 11	73 0 5
Interest	245 9 2	...	...	...
Totals	1,721 10 7	9,159 6 0	1,080 16 6	618 14 10



The contributions paid by the colliery-owners to the Coal-miners' Accident Relief Fund, under the Public Trust Account, was £467 14s. 10d., while payments made towards accident relief amounted to £308 4s. 6d., leaving a balance of £159 10s. 4d.

ACCIDENTS.

Of the number of accidents reported as coming within the meaning of section 60 of "The Coal-mines Act, 1905," three were fatal and twelve non-fatal. Of the persons killed, two were underground at or near the working-face, and the other was a miner who fell over a cliff at Denniston while returning from his work at midnight.

Fatal.

Denniston Colliery.—(27/7/1906): Alfred Archer, miner, killed by fall of stone about 9 yards from the face while taking loaded truck down incline.

Tyneside Colliery.—(27/9/1906): William John Morris, miner, killed by falling prop in the face.

Denniston Colliery.—(24/10/1906): James Wilson, miner, killed by accidentally falling over a cliff while returning from work.

Non-Fatal.

Seddonville Colliery.—(5/2/1906): John Harris, miner, sustained fracture of small bone of right leg while escaping from small fall of soft side coal.

Millerton Colliery.—(19/5/1906): Charles Sibree, miner, had chest injured by falling off ladder in the face.

Point Elizabeth Colliery.—(19/5/1906): Andrew O'Neil, miner, sustained fracture of right leg and slight injury to head, escaping from small fall of stone while working in a pillar face.

Denniston Colliery.—(15/6/1906): C. Peterson, trucker, sustained fracture of leg by runaway empties striking full box which he was trucking.

Millerton Colliery.—(5/7/1906): Charles Lewis, miner, sustained injury to back and knee by fall of roof coal while setting timber.

Millerton Colliery.—(3/7/1906): Charles Grey, timberman, slipped on flatsheet while carrying a prop, and sustained severe strain.

Millerton Colliery.—(10/7/1906): James Young, rope-road worker, slipped on rail and had left side and head injured by full truck.

Millerton Colliery.—(16/8/1906): Frederick Smith, machine apprentice, had ribs and legs bruised by fall of coal in the face.

Point Elizabeth Colliery.—(17/10/1906): James Kyle, trucker, sustained compound fracture of left leg by falling between two trucks in No. 1 tunnel district.

Point Elizabeth Colliery.—(30/10/1906): Robert Wilson, miner, sustained injury to back by piece of coal slipping from cutting side while he was kneeling in working-face.

Point Elizabeth Colliery.—(5/11/1906): John Kershaw, trucker, had ribs injured by runaway truck.

Millerton Colliery.—(17/12/1906): David McKenzie, miner, sustained injury to left side and arm by hanging shot coming away and smashing him against prop.

PROSECUTIONS.

Denniston Colliery.—(22/5/1906): Warden's Court, Westport. Proceedings were instituted against a trucker employed at Ironbridge Mine for breach of Special Rules 30 and 33. Proved guilty of breach of Special Rule No. 30, and fined £3, with costs £2 9s.

Blackball Colliery.—(8/10/1906): At the Warden's Court, Greymouth, legal proceedings were instituted on one count affecting two persons employed at this colliery for breach of Special Rule No. 36. Both parties pleaded guilty. Fines and costs, £3 16s. each.

Millerton Colliery.—(17/10/1906): Warden's Court, Westport. Proceedings were instituted against a coal-cutting-machine man for breach of Special Rule No 36. Accused pleaded guilty, and was fined £1, with £1 8s. costs.

GENERAL REMARKS.

Throughout the year the productive capacities of the West Coast collieries have maintained a steady and marked increase, the gross tonnage sold being 962,915 tons, as compared with 856,227 tons for the year 1905. The increase for the year 1906 was 106,688 tons, as against that of 19,277 tons for the preceding year.

NEW LEASES.

Westport Naval Coal Company.—(Cooke's lease): According to notes received from Mr. R. Young, Westport, acting attorney for the company, working-capital to the amount of £100,000 has been subscribed in England. The surveys and plans in connection with the projected surface works are just completed. In addition to the £1,000 deposited on receipt of lease, local expenses in surveys, &c., was £840; London expenses, £500.

FOREIGN TRADE.

Westport Coal Company.—The total tonnage shipped directly from Westport to ports outside the colony during the year 1906 was 33,245 tons, this being a decrease of 1,524 tons as compared with 34,769 tons for the year 1905, and in comparison with the year 1904 a decrease of 11,074 tons.

I have, &c.,

R. TENNENT,
Inspector of Mines.

Mr. E. [R. GREEN, Inspector of Mines, Dunedin, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Office of Inspector of Mines (Southern District), Dunedin, 19th March, 1907.

I have the honour to submit the following report on the coal-mines in the Southern District for the year ending the 31st December, 1906, in fulfilment of the requirements of section 75 of "The Coal-mines Act, 1905"—

CANTERBURY.

Springfield Colliery, Springfield (J. Taylor, permit).—(4/12/1906): Operations at this mine are gradually decreasing. No output of fireclay during the year. Two men generally employed.

Springfield Fireclay Works, Springfield (lately Victoria Mine) (Luke Greening, mine-manager, permit).—(4/12/1906): This property, formerly known as Victoria Mine, was sold by W. J. Cloudasley to the above company. At the time of my visit the mine was idle, pending the completion of a new air-shaft, as the workings had been extended beyond the influence of the existing shaft. The pottery-works were in active operation.

Dalethorpe Coal-mine, Springfield (G. Rutherford, owner; P. Campbell, manager).—(4/12/1906): I learned on this visit that operations had been suspended.

Homebush Colliery, Glentunnel (J. C. Campbell, manager; Dean's trustees, owners).—(21/12/1906): South-going dip-workings are stopped meanwhile, and Nos. 1 and 2 heading-places continue to supply the bulk of output from this section. Ventilation is much improved since the furnaces started. The new overcast for air-return from the north side will be another advantage when finished. It is estimated that the pillaring section to rise will last three years at present rate of output. The underviewer claims that less than 20 tons of coal have been lost in the pillars during the past twelve months. That close attention continues to be paid by officials to the false roof and safe timbering of working-places is evidenced by freedom from accident from that cause. The surface tramway from mine-mouth to railway is being straightened and graded to suit the light locomotive which is being imported to replace horse-haulage. Rules posted, plans kept, and report-books to date. 184 tons of fireclay were produced during the year for manufacture on the premises.

St. Helens Colliery, Whitecliffs (H. Levick, permit).—(21/12/1906): The old workings to rise are now exhausted. A new dip-drive and air-shaft are sunk on a 3 ft. seam of coal to the westward of all old workings.

Craigieburn Coal-mine, West Coast Road (D. Manson).—During the year 35 tons of coal mined for station and local requirements.

Snowdon Coal-mine, Rakaiia Gorge (George Gerard).—Coal mined for station purposes and local requirements.

Kakahu Colliery, Geraldine (George Robertson, owner).—(8/12/1906): A small prospecting shaft has been sunk on the creek-bank in the coal-measures underlying the limestone formation. The 2 ft. seam is visible, but efforts to reach the 8 ft. seam said to underlie are not being prosecuted meanwhile.

Christchurch Lime Company, Slaveley (R. L. Scott, secretary, Christchurch).—No work has been done in connection with the coal-seams on this property during the year.

Mount Somers Coal Company, Mount Somers (Andrew Thompson, mine-manager; George Nell, secretary).—(19/12/1906): Headings and levels are apparently up to boundaries on northern and western sides of the freehold. The manager suggests that new workings will be undertaken on Gibson's leasehold adjoining. Air good. Report-book to date. Seam known to be 30 ft. in thickness.

Woolshed Creek Colliery, Mount Somers (W. T. Doak, secretary; Thomas Harris, permit).—(19/12/1906): Underground workings are now being extended to northward, but the coal is stony and roof bad, to which timber is set where required. Air good. This company, as applicants for a coal lease over Crown lands adjoining and to northward of the Mount Somers Coal Company's freehold, if successful in securing the area, announce their intention of an extension of the county tram-line up the valley of Chapman's Creek.

Albury Coal-mine, Chamberlain Settlement, Albury (G. H. Willetts, lessee and permit-holder).—(21/11/1906): Under new tenancy the mine is working steadily in supply of local requirements. Mr. Willetts concurred that the main level should be taken narrow under the creek-bed in order to avoid risk of falling roof letting the water into the mine. Seam, 10 ft.

Waihao Coal Syndicate, Waihao Forks (G. Lomas, permit).—(22/11/1906): Seam, 5 ft., having 2 ft. of shale interbedded. System of work, modified longwall. A prospecting shaft, 6 ft. 2 in. by 4 ft. in the clear, being sunk at about 20 chains from Waihao Forks Railway-station, is down 173 ft. in the green sands, at which point water was struck, necessitating steam winding and pumping appliances, which are now being furnished.

Elephant Hill, Waihao Downs (Lewis Mathias).—About 84 tons of coal have been taken from this pit during the year for station and local requirements.

Dalgety Coal-pit, Hakataramea (New Zealand and Australian Land Company, owners; J. Drysdale, manager).—A new mine has been opened further up the creek-bank, where the seam is semi-vertical and 30 ft. in thickness.

NORTH OTAGO.

Wharekuri Coal-pit, Wharekuri (A. Shanks).—(30/10/1906): The new drive is to some extent unfortunately situated in having struck the old workings, of which no plans are available. The work, however, is not all loss, as a certain percentage of coal left standing by former workers is recoverable. An uprise to surface for air-return is about to be started.

Cairns's Coal-area, Awakino, Kurow (W. B. Cairns, licensee).—(30/11/1906): Practically nothing has been done on this area since the license was granted.

Sanderson's Coal-mine (late Phillips's), Awakino, Kurow (John Sanderson, owner).—(30/11/1906): This mine having been acquired by Mr. Sanderson, the new owner has driven 50 yards in and 50 yards southerly along the strike of the semi-vertical coal-seam to a fault which was being proved. A prospecting shaft to south of present workings is down 30 ft.

Awakino Coal-mine, Kurow (George Orr, owner).—(30/11/1906): Not worked since March, 1905.

St. Andrew's Colliery, Papakaio (Thomas Nimmo, owner and manager).—(23/11/1906): A feature of the work in this mine is the safe manner in which pillars and head coal continue to be withdrawn without accident. Air good. Rules posted.

Prince Alfred Colliery, Papakaio (Mrs. J. E. Willetts, owner; William Russell, permit).—(23/11/1906): The 7 ft. seam of coal in the leasehold is practically exhausted. Timbering is well and safely done. A quantity of CO₂ being given off from the waste is led direct to the upcast air-shaft. A prospecting shaft being sunk on the freehold is down 40 ft. in the coal-measures.

Ngapara Colliery, Ngapara (William Nimmo, owner and manager).—(14/8/1906): Mine-workings in good order. Ventilation excellent. Seam, 25 ft. lignite and shale intermixed, having bands showing resinous and woody structure.

Allandale Colliery, Shag Point (C. H. Westfield, mine-manager; W. Everest, secretary, Shag Point).—(27/11/1906): North section: Coal having thinned down considerably, it was decided to cease advancing and come back on the pillars, which work is now proceeding. A prospecting bore at 58 ft. passed through a seam of coal 3 ft. 6 in. in thickness. Dip section: Development continues. The dip is at 280 yards to the face, and No. 2 north and south levels are broken away—the north level in top seam and south level in No. 2 seam. These seams are seen contiguous in several sections of the district, giving a total thickness of from 12 ft. to 14 ft. of coal where exposed. Ventilation satisfactory, and timbering of working-places systematically attended to, an abundant supply for the purpose being constantly maintained on the premises. Electric-power plant for dip-haulage, pumping, and lighting purposes having proved efficacious, additional electrical plant is on order for the purpose of working the 7 ft. seam to the dip at near foot of main-haulage incline. Rules posted. Report-books and plan to date.

Shag Point Colliery (old pit), Shag Point.—(2/5/1906): Buildings are taken down; engines, boilers, pumps, and all plant and machinery removed. Shafts are fenced around and covered with substantial beams. I had a quantity of old and damaged explosives removed from the magazine to a place of safety.

Shag Point Colliery, Shag Point (William Hunt, permit).—A land-sale trade is being done from the upper or 3 ft. seam on the hillside. Pillar-extraction continues.

SOUTH OTAGO.

Fernhill Coal Company, Abbotsford (James Gray, lessee and manager).—(14/11/1906): A section of the old workings has been opened and cleared of damp. Falls of roof and sand from above coal-seam make effective stoppings to fire area. Ventilation satisfactory.

Freeman's Coal Company, Abbotsford (R. Hill, manager).—(14/11/1906): The irregular method of development adopted is not conducive to free ventilation, with the result that while a fair supply of air enters the mine an unduly small proportion of the whole reaches a number of the working-faces. At my request improvements have been effected from time to time by closer attention to bratticing, and the ventilating furnace has been repaired and enlarged somewhat. It is, however, apparent that as airways and roadways lengthen the loss of air by leakage and drag is such that the requirements of the Coal-mines Act are becoming incapable of fulfilment under the existing system. Pillars are being successfully drawn in the dip area, and the line of fire stoppings is maintained. An air-door on the haulage-road was found burnt in half, but whether maliciously or accidentally set on fire has not been ascertained. The new coupled haulage-engine is working effectively. Report-books to date. Plan kept. Rules posted.

Jubilee Colliery, Saddle Hill (Peter Campbell, mine-manager).—(19/9/1906): A new air-shaft, 4 ft. 6 in. by 2 ft. 6 in., has been sunk a depth of 75 ft. to the coal-seam; hence the ventilation around the working-faces is considerably improved. The former air-course has been cut off, and the old workings have now a separate ventilating system. Twenty-eight men employed. The mine-workings and roadways are in good order. Powder-canisters provided. Rules posted. Report-book up to date. Plan kept.

Burnweil Colliery (including Glenochiel Colliery), Saddle Hill (Adam Harris, owner and manager).—(19/9/1906): Mr. Harris having acquired the adjoining Glenochiel Colliery property (so long owned and worked by Mr. Bryce), has recently directed his efforts in the latter direction. Hauling-engine and steam-boiler having been erected, a new dip is being driven easterly, which will command a reasonable area of coal-seam to the rise of the engine plane. Ventilation good, and brattice up to working-faces.

Saddle Hill No. 1 Colliery, Saddle Hill (Christie Bros., owners; W. W. Ogilvie, manager).—(9/10/1906): A brick furnace has been built to the new upcast air-shaft. Ventilation excellent, and air conducted by brattice to working-faces. Extension of main dip is being proceeded with. This mine is water-free, due to percolation of water-growth (which is considerable) into a seam of sand underlying the coal-seam, thus becoming a source of underground springs at lower altitudes. Seam 20 ft. in thickness, of which 8 ft. is being worked bord and pillar as first working.

Saddle Hill No. 2 Colliery, Saddle Hill (Christie Bros., owners; James C. Christie, manager).—(19/9/1906): Pillars continue to be successfully drawn in a safe manner, an ample supply of timber being kept up to the lip of the waste as required. Mr. Christie estimated that from 85 to 90 per cent. of the coal-seam is being recovered. It is worthy of notice that fifteen miners produced 21,000 tons

of coal from this mine during the year 1906. The total number of men underground, 17. Seam, 20 ft., all being worked.

Mosgiel Colliery, Mosgiel (Orr and party; Hugh Orr, manager).—(19/9/1906): Operations are being continued in the dip section of the mine. All work on south side is stopped on the boundary. Ventilation, fair. Mine-workings generally in good order. Six men employed. Rules posted. Report-book kept.

Lauriston Colliery, Duncan Settlement, Brighton Road (J. Walker, owner and manager).—About 250 tons of coal were raised from this mine during the year for local requirements. Three men employed.

McCull's Coal-pit, Duncan Settlement, Brighton (D. L. McCull).—Two men employed during the year raised 256 tons of coal for local requirements from this pit.

Drummuir Coal-mine, Brighton (A. Loudon).—Coal mined for private use.

Fairbairn's Coal-mine, Taieri Mouth (R. Fairbairn, owner).—Coal mined for private use and local requirements.

Bruce Coal-mine, Milton (Anthony Young).—(18/10/1906): Mine idle meanwhile.

Reed's Coal-mine, Milton.—(18/10/1906): Mine idle meanwhile.

Real Mackay Colliery, Milton (Lovell's Flat Coal Company, owners; James Carruthers, mine-manager).—(18/10/1906): Driving to boundaries and robbing pillars homeward. Workings in good order and air excellent. A new mine is being driven to the 8 ft. seam which was found by boring.

The Bruce Railway and Coal Company, Milton (Thomas Barclay, mine-manager; R. Robertson, secretary).—(18/10/1906): Steam-haulage and pumping plant have been provided. Workings to dip are turning out well, coal being strong and improved in quality. Substantial brattice erected, and air fairly well conducted throughout the workings.

Adam's Flat Coal-mine, Adam's Flat (J. Reid, owner).—Opencast pit for supply of local requirements.

Wallsend Coal-mine, Lovell's Flat (R. Hewitson).—Opencast pit. 74 tons were taken out during the year for local requirements.

Benhar Coal-mine, Stirling (P. McSkimming and Son, owners; James McLeod, permit).—(12/12/1906): Nos. 2 and 3 seams are now being worked from the new dip drive to eastward. Shot-firing and blasting was in progress at the time of my visit, just prior to the miners ceasing work for the day.

Mount Wallace Coal-mine, Stirling (Francis Park, lessee, lately James Walls).—Mr. Park took over the proprietorship of this mine during the year, and a steady output has been maintained, about 540 tons being extracted.

Taratu Railway and Coal Company, Taratu Colliery, Kaitangata (Thomas Shore, mine-manager; G. R. Cheeseman, general manager).—(4/10/1906): All work is still confined to the upper seam. Working-places and roadways in good order. Timber well used. Ventilation good. There are now three air-returns, and a new one is being made to come out on the other side of the hill. The main level has been driven to the roof at 12 chains 22 links. A dip has now been driven 75 ft. at a grade of 1 in 5 and a start made to open up this section. The coal looks well in the dip section. An oil-engine is to be installed for pumping and winding. Mine idle on this date. Eighteen men employed. Report-books in order.

Kaitangata Colliery, Kaitangata.—(New Zealand Coal and Oil Company, owners; O. G. Lockhart, secretary, Dunedin; W. Carson, mine-manager).—(11/12/1906): At the commencement of the year Mr. Carson, mine-manager, Castle Hill Colliery, was appointed manager over both the company's mines at Kaitangata. In the month of April, signs of heating being apparent in No. 12 dip, the men were withdrawn from the two remaining pillars and the dip closed off. Development-work in the new main seam, south district, was continued during the early part of the year. No. 19 dip was driven 370 ft., the main south level extended, and Nos. 3 and 4 headings were put up several hundred feet and bords broken away. No. 18 dip workings were being freely robbed when a feeder of water with gas was experienced in No. 3 bord off No. 19 dip; the water rose and overflowed into No. 18 dip, which also became flooded. As extension of the main-seam workings progressed the circulation of air and working-faces became increasingly difficult, and during an extended period of unfavourable atmospheric conditions in the month of May exudation of gases became so pronounced that the ventilating system proved inadequate to sufficiently dilute the increased volume of gas being given off. This state continuing, the management decided in June to proceed with the sinking of a new air-shaft on the seaward side of the main range of hills as already surveyed to a site in advance of the new workings. The shaft, 7 ft. 6 in. by 5 ft. in the clear, was sunk 583 ft., and communication successfully made underground, thus cutting off a mile and a quarter of return airway, the major part of which had been driven and maintained through old workings. During the period of cessation of coal-winning pending sinking of new air-shaft, advantage was taken of the opportunity to effect necessary repairs to the main cross-measures haulage-road underground. Brick-wall fire-stoppings were repaired and strengthened, the brick arch at No. 3 reinforced with bent and shaped railway metals backed with 4 in. hardwood lagging. At intersections of Nos. 8, 9, and 16 districts—the coal-seams being practically worked out—continuous sets of bent rails having boiler-plate sheathing and sand backing have been inserted in the cross-sections of the coal-seams from rock to rock, which it is hoped will effectually act as airtight stoppings, imprison black damp, and prevent subsequent outbreak of fire by spontaneous ignition at those points. Unfortunately, several serious accidents happened to the mine officials while these improvements were being carried out. (25/7/1906): Neill McAllister, assistant manager, and Charles Milne, repairer, were severely burned about face, hands, and body by a small fall of heated sand which came away unexpectedly from near the roof at brick-wall fire-stopping undergoing repair at foot of main incline. (10/10/1906): John McCaughern and William Proctor, deputies, sustained burns of face and arms by slight ignition of firedamp at No. 8 crossing. For purpose of getting in to play water

on a small fire which had arisen they took brattice in, when a small quantity of gas which had accumulated near the roof came in contact with a flame from the fire. (8/11/1906): Frederick Olive Anderson, acting assistant manager, and William Lee, mechanical engineer, were missed during the morning, and their bodies were subsequently found in the return airway, which was heavily fouled by gases from a partially deluged spontaneous fire at No. 9, which latter, it is assumed, deceased went in to explore. (17/12/1906): James Hill, banksman, and David Coulter, miner, sustained burns of face, neck, and arms by an ignition of gas at top of new sinking air-shaft. Owing to unfavourable weather, ventilation was dull, and work in the shaft was suspended. Hill, Coulter, and a miner named Illingworth were engaged adjusting the plumb-lines, when Illingworth struck a match to light his pipe and caused the ignition. (5/2/1907): Alexander Bennie, miner, was fatally injured at No. 3 level, No. 18 dip, by a fall of coal from low roof, crushing deceased on the end of a box which he had just filled. A pillar "nug" occurred, and the coal, about 10 cwt., came suddenly away from a "sooty back." Deceased's brother and workmate stated that he had sounded the roof prior to the accident, and, although "drummy," he thought it safe.

Castle Hill Colliery, Kaitangata (New Zealand Coal and Oil Company, owners; W. Carson, mine-manager).—(12/12/1906): This mine has been unusually vigorously worked during the year on account of the difficulties encountered at the sister Kaitangata Mine. Green's Seam district had been extensively drawn upon for output, the north level driven to the roll and No. 5 dip to the fault, pillaring and robbing being subsequently conducted. The carriage heading section, south extension, had been practically exhausted, and fire-stoppings are being put in. No. 6 dip in this section is down 100 ft. to the face. Stone drive crosscut section pillars have been freely drawn upon. The main cross-measures extension had intersected a new 6 ft. seam, and levels and headings are being driven for development. Air-register, 21,672 cubic feet per minute. Working-places, roadways, and airways maintained in safe condition with timber. Ventilation good. Traces of gas are occasionally met with in advancing places, which are kept bratticed up close to the face, and only safety-lamps used. A water-balance for man-hoisting purposes at the upcast air-shaft has been submitted to successive trials, which are yet incomplete. Rules posted. Report-books kept; and plans to date. Joseph Terry, twenty, repairer, sustained injuries to chest and head through being struck by a runaway box while working on No. 1 heading south, on the 26th May. The circumstances surrounding the runaway were not satisfactorily explained, but inquiry failed to elicit sufficient information to enable further proceedings being taken.

Wangaloa Coal-mine, Kaitangata.—(Joseph Smith, lessee).—The coal is still mined as required for local consumption.

Mainholm Colliery, Conical Hills, Waipahi (W. Lischner).—Opencast workings. 3,190 tons of lignite were produced during the year. Three men employed.

CENTRAL OTAGO.

W. J. Tonkin's Property, Ettrick.—Prospecting operations were carried out by David Jones, but the work proved unsuccessful in finding a payable seam of coal.

Coal Creek Collieries, Coal Creek Flat, Roxburgh (R. Pilling, jun., secretary; J. Barber, mine-manager).—(23/5/1906): Leasehold Mine: The "old mine" pillars and head coal were won opencast to water-level. A dip was then started to work the coal "underfoot," and a large quantity of coal has been won in this way. As all the coal from this section must now be mined from the dip, a new drive has been put in to meet the seam in the dip and lessen the water difficulty. 2,165 tons of coal were extracted from this section during the year.

Freehold Mine: Although 2,474 tons of coal were raised from this section during the year, very little work has been done during the last half-year. The dredging companies raised objection to the class of coal produced from the mine, and in order to retain the trade it was necessary to draw supplies from the leasehold section. Rules posted. Report-book and plan kept up. The company employs on an average ten men.

McPherson's Coal-pit, Coal Creek, Roxburgh (Mrs. M. McPherson, lessee; A. McPherson, manager).—(23/5/1906): This opencast pit has been worked during the year on the usual good lines. Two working-faces are now opened up. Six men are employed in stripping and in mining coal. 4,836 tons of coal were sold during the year.

Craig's Perseverance Coal-mine, Coal Creek Flat, Roxburgh (James Craig, lessee; W. Craig, permit).—(23/5/1906): The old dip-workings have been blocked off, and the north-western area, which was heating, has been flooded. A new dip drive has been put down to maintain ventilation, pumping, and haulage. On the eastern end of the lease the coal is being worked opencast. 3,372 tons were raised during the year. Six men employed.

Progress Colliery (Gully Pit), Roxburgh (A. Edmeades, lessee).—No work was done on this area during the year.

McQueenville Colliery, Alexandra (S. T. Lett, lessee).—(20/12/1906): The area is kept fenced off pending complete settlement of the worked-out portions. The surface plumps are being attended to at intervals.

Lett's New Mine, Gemmell's Gully, Alexandra (S. T. Lett, lessee).—(20/12/1906): No work has been done on this area during the year, and the lessee has abandoned his intention of working it.

Alexandra Coal-mine, Alexandra (Mathias Bros. and Co., lessees; A. Hunter, manager).—(10/1/1906): Mr. Hunter reported an occurrence of firedamp on the 4th instant in a pot-hole in roof at water lodgment, discovered while making ordinary morning examination with safety-lamp. The gas having been cleared by ventilation had not subsequently been seen. Working-places in good order, but air a little dull at two faces, which were improved by bratticing. The fault parallel to the dip

drive is interfering considerably with the southerly side of work. The area affected is three-quarters of a chain in width, within which coal is soft, broken, and inferior. (20/12/1906): This mine has continued to be worked on the usual good lines throughout the year. Unfortunately, the dip section of the seam is inclined to be soft. The workings, roadways, and air-courses are in good order. Ventilation good; plan kept; report-book to date; rules posted. 6,010 tons of coal were raised, principally for dredge requirements. The average number of men employed was two above ground and eleven below. Safety-lamp inspection continues to be regularly made prior to men descending to work.

Alexandra Coal Company, Alexandra (L. Ryan, secretary; James Pollock, mine-manager).—(29/9/1906): It is becoming quite evident from indications—i.e., alteration of dip of seam toward the fault, also prevalence of "wet backs" in the riverward area to west of present workings—that if the coal-seam does not outcrop in that direction there is at least a change for the worse, and Mr. Pollock is now running his places along the fringe of the "wet back" area, which is becoming more defined, as may be seen on reference to the plan of the workings. In this section boreholes ahead, flank, and roof, regularly put in at intervals of 15 ft. and 20 ft. respectively for flank and roof-holes, and while the flank and straight boreholes indicate "wet backs" as they occur, it is remarkable that the roof-holes are all dry. Most of the water comes from the parting between the black and brown seams. Boreholes indicating "wet backs" are plugged up tightly as soon as water is detected. Inflow of water into the pit—viz., 150,000 gallons per day—is an appreciable reduction on what had latterly been usual. The row of watertight brick stoppings is completed and ready for use if and when required. An unfortunate accident happened on the 14th July, whereby four men were imprisoned for eighteen hours. A fire, supposed to have originated accidentally in the pumping-chamber, extended to the woodwork and bratticing at foot of the shaft, the lining timbers of which, being kauri timber, burned fiercely until several supplies of water from the surface having been laid on the fire became subdued. Rescue parties were organized, and the men were brought to bank suffering more or less from the effects of shock, foul air, and slight burns. The shaft is 73 ft. in depth, and, being the single outlet from the workings, not more than ten persons are employed below at any one time, as provided by section 46 "The Coal-mines Act, 1905."

Cambrian's Coal-pit, Cambrian's (Catherine Dungey, lessee).—Opencast pit. One man employed to supply limited trade.

Welshman's Gully Coal-pit, Cambrian's (James McGuckin, lessee).—(25/10/1906): The pit is mainly closed by slip clay from the face. A section of the seam is being stripped by water, where a few tons of coal are being taken out.

Jones's Coal-pit, Cambrian's (Lilah Jones, lessee; R. Jones, manager).—(25/10/1906): The hill-side having slipped in, the pit is now closed. Application is being made for a lignite license at Three-mile Creek, Lauder Station, over an area formerly known as McArthur's lease.

Blackstone Hill Coal-pit, Blackstone Hill (James Armitage, lessee).—(24/10/1906): Work was suspended during the winter, and has not been resumed, Mr. Armitage being of the opinion that the pit was worked out.

Price's Coal-pit, Blackstone Hill (D. McKnight, late G. Price, lessee).—Coal taken out for private use only.

St. Bathans's Coal-pit, St. Bathans's (James Enright, lessee).—(24/10/1906): Two men engaged stripping and carting spoil out of the pit, which is in fair working-order.

Rough Ridge Coal-pit, Idaburn (Mrs. M. Beck, lessee; William Beck, manager).—(24/10/1906): Stripping kept well ahead, but sales reduced, it is claimed, since the advent of the Otago Central Railway.

Idaburn Coal-pit, Idaburn (J. White, lessee).—(24/10/1906): Stripping kept well in advance of the working-face. Natural tunnels or waterway under-runners in the seam interfere with the work and spoil the face of coal.

Border Coal-pit, Rough Ridge (G. Turnbull, lessee, deceased; W. Roebuck, trustee, Oamaru).—No work has been done since Mr. Turnbull's death. The pit is idle and full of water.

Gimmerburn Coal-pit, Gimmerburn (C. Dougherty, lessee).—Forty-eight tons of coal were taken from this opencast mine to supply local requirements.

McCready and Coombs's Coal-pit, Kyeburn Diggings (W. Coombs, deceased, lessee).—Only about 6 tons mined for private use.

Healey's Lignite License, Kyeburn (Thomas Healey, licensee).—Want of funds is the reason assigned why no work has been done in prospecting for suitable inlet into the seam, which lies below the level of Kyeburn River.

Clyde Collieries Company, Clyde (A. C. Ackroyd, secretary, Dunedin; G. Smith, manager).—(16/8/1906): This company continues to develop this property according to trade requirements. The mine-workings are in good order. Ventilation is good throughout. Rules posted; plans kept; report-book up to date. The total output for the year from the Vincent and Dairy Creek sections was 4,196 tons, principally for dredge consumption. Ten men employed.

Fraser River Coal-mine, Shepherd's Flat, Clyde (James Goodger, secretary, Cromwell; C. Tippet, permit).—(18/5/1906): Mine-workings in fair order. Seam thin and roof bad, necessitating narrow work and good use of timber. Plan kept. Two men employed. The output of this pit depended solely on the operation of the Loch Lomond dredge. As this dredge ceased work in June, the pit has been idle ever since.

Scott's Freehold, Lowburn Flat.—The location of a seam of workable coal in the Clutha Basin would be of advantage to the dredges working in that locality. Some prospecting by boring was undertaken, but only a thin seam of coal was passed through. Further prospecting by boring was hindered by the stiff nature of the clay underlying the seam. It is intended to continue the search by shaft-sinking.

Cardrona Colliery, Cardrona (R. McDougall, lessee).—(11/12/1906): The lessee continues to work

this pit on the opencast system. A good supply of water under pressure enables the top material to be sluiced off. The coal is then mined to water-level. This pit supplies the requirements of the Cardrona, Wanaka, and Arrowtown districts. 8,588 tons of coal were raised during the year. Seven men employed.

Gibbston Coal Company, Gibbston Saddle (Duncan and Scheib, lessees; John Duncan, manager).—(13/12/1906): The company has leased the mine to Duncan and Scheib, who are carrying on operations on the usual lines. Timber is well used. Ventilation good, being maintained by a connection with the upper-level workings. Mine-workings in good order. The tramway down the mountain-side continues to work satisfactorily. Five men employed.

Cromwell and Bannockburn Collieries Company, Bannockburn (T. K. Harty, secretary, Dunedin; A. S. Gillanders, manager).—(18/5/1906): Kawareau Mine: The dip-face now stands at 850 ft. from daylight. The dip of the seam is not uniform, and has flattened out considerably, while there is a proportion of soft coal in the seam. The places are driven narrow to obviate the risk of breaks occurring in the roof. Drainage through the upper workings near the outcrop continues to give trouble. Ventilation good. Report-book to date. Plan kept. Rules posted. Thirteen men are employed in this mine.

Excelsior Mine: Connection has been made with the adjoining mine, Wilson's, and good ventilation is now obtainable. A start has been made to come home on the pillars in the Excelsior section. The mine-workings are in good order. Timber well used. Report-book to date. Plan kept. Rules posted. Twenty men employed in this section.

Wilson's Mine: Work in this mine has been confined to keeping the level and airway in order.

Cairnmuir Coal Company, Bannockburn (J. E. McCabe, secretary, permit).—(20/8/1906): This mine is now well opened out by shafts, and considerable improvement has been effected. The surface plant has been removed to the head of the incline-dip, while the air-connection has been completed through the mine. Mine-workings are in good order. The coal is hard and strong. 1,859 tons were raised during the year. Report-book and plan kept. Six men employed.

Charles Angel's Coal-pit, Bannockburn.—Mine worked for private use only.

Nevis Coal-pit, Nevis (Charles Scott, lessee, permit).—(19/12/1906): The lessee continued to work this lease principally to supply coal to the New Era dredge. There is a considerable proportion of soft coal in the seam at present being worked, but a smaller upper seam yielded coal of good quality. Two men generally employed.

Ryder's Coal-pit, Nevis (Charles Scott, lessee).—(19/12/1906): This pit is worked opencast, the overburden being sluiced off. Very little coal has been mined during the year, attention having been given to developing the pit to maintain a large output this season. Pit now in good order. One man employed.

Gunion's Coal-pit, Nevis (R. Gunion, lessee).—(19/12/1906): No work was being done on this lease at this date.

Ritchie's Coal-pit, Nevis (Robert Ritchie, lessee).—(18/12/1906): Seam semi-vertical. The pit is worked opencast, the overburden being sluiced off. 1,669 tons, principally for dredge requirements, were raised during the year. Three men employed.

James Ritchie's (late Graham's) Area, Whitton's Creek, Upper Nevis.—(18/12/1906): This coal is not in demand for steam purposes owing to its soft friable nature, which is due to its proximity to the Upper Nevis fault-line. Blocks of hard coal are sometimes met with during sluicing operations in this district, but they are not continuous.

SOUTHLAND.

Pukerau Coal-pit, Pukerau (C. O'Hagan, permit).—(18/6/1906): No. 1 lease (area, 10 acres): Water proved troublesome under the present system of working the coal from the dip of the level. A new drive is being driven to the dip of the present workings to enable the coal to be won water-free. The seam is thick and strong, and the mine-workings are in good order. Ventilation good. The lessee intends to sink a new pumping-shaft further to the dip. Three men generally employed. Rules posted. Plan kept.

No. 2 lease (area, 5 acres): This area is not being worked. The lessee considers it can be worked to best advantage from No. 1 lease when the workings are far enough advanced.

Nelson's Coal-pit, Pukerau (J. H. Nelson).—(18/6/1906): Two men are generally employed in this mine, which is worked for district requirements only. The seam is thick and strong, and the mine is in good order. Water troublesome. The lessee intends to install an oil-engine and belt-driven pump.

Mason's Coal-pit, Pukerau (A. Mason).—Coal taken out for private use only.

Milne's Coal-pit, Pukerau (A. Milne).—Coal taken out for private use only.

Glover's Coal-pit, Pukerau (Thomas Glover).—Coal taken out for private use only.

Riverview Coal-pit, Gore (L. D. Nicol, owner).—This pit is situated on freehold land. Supplies are drawn for private use and limited district requirements.

Hoffman's Coal-pit, East Gore (T. Hoffman, lessee).—(13/12/1906): This pit was opened out with the view of locating an alleged trespass by the neighbouring colliery-owner. 408 tons 7 cwt. of coal were mined, but as the seam at this place did not prove suitable the mine was closed down.

Whiterigg Colliery, East Gore (W. H. Paterson, owner; John Hartley, permit).—(13/12/1906): The area affected by "creep" having settled, new workings are being opened to northward. Owing to the extreme competition resulting in the reduction of the selling-price in the district, trade is slack at this pit. Two men were employed taking out old pillars in the "rise" section to get dry coal for the household trade. Powder carefully stored and used. Ventilation good. Rules posted. Plan kept.

Heffernan's Coal-pit, East Gore (W. Burgess, lessee, permit).—(9/10/1906): Since last visit a boiler and steam-pump have been installed, and operations have been extended to the dip. The dip

having been driven excessively wide, for safety, I gave instructions to reduce the width to 16 ft. and to increase the size of the pillars. Timber at mine-mouth requires renewal. Rules posted. Powder well handled. Ventilation good. Two men employed. On the 26th May, 1906, Joseph Lamberton, miner, sustained fracture of fibula in a simple manner by a piece of coal rolling on to his leg.

Rosedale Coal-pit, Waikaka Valley (A. Reinke, owner; A. Mutch, lessee).—(11/9/1906): Pit situated on freehold land. Supplies are drawn from this opencast pit principally for dredge requirements in Waikaka Valley. 944 tons were raised during the year. One man generally employed.

Michael Leitze's Coal-pit, East Gore.—Coal mined for private use only.

A. McDonald's Coal-pit, East Gore.—(9/10/1906): No coal was taken out during the year.

Robert Smith's Coal-pit, East Gore.—Pit on freehold land. Coal mined for private use only.

H. Smith's Coal-pit, East Gore.—Pit on freehold land. Coal mined for private use only.

Green's Coal-pit Gore (Thomas Green, owner; J. Mason, manager).—(13/12/1906): During the last half-year, Smyth's lease having expired, the owner assumed control over the mine. Considerable alterations have been made to the haulage-roads, loading-banks, and machinery on the surface. A new haulage-engine, steam-boiler, and steam-pump have been added to the plant, which is now capable of turning out an increased output. 7,881 tons of coal were raised during the year. The mine is in good working-order. Compressed powder carefully used. Rules posted. Report-books and plan kept. Eleven men are employed.

Smyth's Coal-mine, Gore (Joseph Smyth, owner; John Smyth, permit; reopened).—(13/12/1906): This mine has recently been reopened, and steam boiler and pump installed. The water is out, and coal is now being produced. The mine had only slightly deteriorated during the nine years which it had been standing.

Tait's Coal-pit, Bushy Park Estate, Croydon (James R. Tait and Co., owners).—(13/12/1906): This new pit is situated at the head of Charlton Valley, and was opened to supply fuel for sawmilling and dredging operations. A tramline, six miles in length, has been constructed down the valley to connect the pit with the various dredges. The seam is 14 ft. to 20 ft. in thickness, and is worked opencast. Thickness of clay stripping, 5 ft. and upwards. Three men employed.

Knapdale Coal-mine, Knapdale (W. Irvine).—Pit idle throughout the year. Further winning of the coal to the dip would necessitate installation of winding and pumping plant.

Boornwell Coal-pit, Chatton (G. P. Johnson, owner; James Stark, permit).—(13/12/1906): This visit was paid in connection with an accident to John Ramsay, who sustained injuries to head and face and back by a fall of coal from roof on the 5th December, 1906. I learned that Ramsay had fired a shot the previous evening, and on the morning of the accident had filled away several boxes of coal, when a flake came away from the roof inflicting injuries described. It would appear that Ramsay (who was in charge of the pit during temporary incapacity of Mr. Stark) had not carefully examined roof of place after shot-firing and before proceeding to work thereunder.

Pacey's Leasehold Coal-pit, East Chatton (R. Pacey, lessee).—(11/9/1906): Nothing has been done on this lease during the year.

Pacey's Freehold Coal-pit, East Chatton (R. Pacey, owner; W. McIvor, permit).—(13/12/1906): Opencast pit, 10 ft. to 12 ft.; seam, 30 ft. Thomas Maslin sustained burns on the arm on the 22nd November, caused by a spark from a spitting fuse igniting loose blasting-powder in a tin which Maslin had been using.

Perkins's Coal-pit, East Chatton (A. Perkins, lessee).—(13/12/1906): A set of timber has been placed at mine-mouth, and Perkins promised that the clay-bank face would be trimmed for safety during the forthcoming holidays.

Chatton Coal-pit, Chatton (A. Beath, lessee).—(16/10/1906): This vertical seam is disadvantageously situated owing to the heavy overburden and the soft nature of the walls. In the upper level the seam proved to be broken and soft. The dip was then turned away at a steeper grade to open out at a lower level. Owing to the heavy drainage, and the absence of suitable hauling and pumping machinery, the venture proved unpayable, and the mine has been closed down. Two men were employed.

Cross's Coal-pit, Otama (Cross Bros., owners).—This coal-pit is situated on freehold land, and coal is mined for private use, also during the threshing season.

Thorndale Coal-pit, Waikaka Valley (William Lloyd, owner; F. Raunsley, lessee).—(9/10/1906): The condition of this pit is such that unless expenditure is incurred on suitable pumping machinery the future output will be very limited. Owing to the heavy nature of the overburden, there is now a tendency to undermine the face in order to maintain the trade. I instructed the owner and the lessee to desist from this method of working. One man generally employed.

Springvale Coal-pit, Waikaka Valley (J. P. McIntyre, owner, Gore; D. McColl, lessee).—(10/7/1906): Opencast pit; seam, 10 ft. in thickness; stripping, 10 ft. The pit supplies coal for dredge and local purposes. The overburden is kept well stripped back, and the pit is in good working-order. Suitable powder-magazine provided. Output for the year, 2,576 tons. Two men generally employed.

Willowbank (late Reed's) Coal-pit, Waikaka Valley (W. Paterson, owner; W. Jones, permit).—(10/9/1906): A suitable winding and pumping plant having been installed, operations are being continued to the dip. Good ventilation is maintained through several openings into the mine. The mine-workings are in good order; timber well used; powder carefully used. Rules posted. Six men employed.

McGill's Glenlee Coal-pit, Wendon Valley (J. McGill, owner; D. T. McGill, permit).—(15/10/1906): This mine is situated on freehold land. One man is generally employed, as the output is limited. The coal is worked partly opencast and partly underground. Explosives well stored and carefully used.

McDonald's Coal-pit, Wendon Valley (A. A. Edge, owner; S. Coulter, permit).—(15/10/1906): Operations are being carried on as usual in this pit. 3,481 tons of coal were raised and sold, principally

for the requirements of dredges working in Waikaka Valley. The mine is in good working-order. Ventilation good. Powder well stored and carefully used. Rules posted. Four men employed.

Edge's Coal-pit, Wendon Valley (A. A. Edge, lessee).—No coal has been mined from this area during the year.

J. Bushbridge's Coal-pit, Wendon Valley.—Supplies are drawn from this pit during the summer months for threshing and winter use.

Perkins's Coal-pit, Wendon Valley (George Perkins).—Coal mined for private use only.

Henderson's Coal-pit, Wendon Valley.—Coal mined for private use only.

Radford's Coal-pit, Wendon.—This pit was idle throughout the year.

Mystery Flat Coal-seam, Waikaia.—A bed of lignite from 2 to 4 chains in width has been proved by boring and dredging operations to exist in the main valley opposite Monaghan's woolshed, Landslip. It was proposed to work this seam, but the plan was not carried through.

Landslip Coal-mine, Waikaia (Landslip Coal Syndicate, owners; W. E. C. Reid, secretary, Dunedin; R. Brown, manager).—(11/1/1906): The tramway bridge, 4 chains in length, across the Waikaia River facilitates coal-loading when the river is in fresh. The coal-seam is 18 ft. in thickness, of which 8 ft. is being extracted first working; pillars, 30 ft. square. Increased air-circulation by erecting a chimney on the upcast shaft, and utilising exhaust steam from pump is under consideration.

Kyle and Sons' Coal-pit (late Rear's), Waikaia (William Kyle, permit).—(11/10/1906): Coal-seam tender, and care required to maintain the places intact. The low-level drainage-tunnel being driven should prove a benefit.

Rossvale Coal-pit (late Ross's), Waikaia (Bond and Cain, lessees; J. Bond, permit).—(11/10/1906): Mine-entrance well timbered, and main level is in good order, and gradually getting around Ross's old workings, which are fallen. The lower seam is 10 ft. in thickness, of which 6 ft. is worked, leaving strong roof in coal so long as present width of bords (8 ft.) is not exceeded.

Monaghan's Coal-pit, Landslip, Waikaia (R. Monaghan, lessee; J. T. Young, permit).—(11/10/1906): North-going levels are driven past old workings, which are fallen. This seam will not stand wide or high drives, and the roof of soft sandstone is not self-supporting. Stentons for air are driven at regular intervals. The proprietor contemplates selling his interest in the mine.

Muddy Terrace (Shale-pit), Waikaia (T. F. Goldie, owner; J. M. Hazeldine, manager).—(23/3/1906): This seam is now worked partly by opencast and partly by underground mining. The mine-workings are in good order. Timber well used. Ventilation good. The seam is 17 ft. in thickness. The depth of clay-stripping in the open face is 15 ft. Six men are employed.

Argyle Coal-pit, Upper Waikaia (J. and T. Baxter, lessees).—(22/3/1906): Owing to its distance from the dredging-field this pit does not maintain a steady output. The supply is chiefly to farmers, and does not exceed 250 tons per annum. The seam is worked opencast. Two men employed.

Pyramids Coal-pit, Mandeville (E. MacAllister, owner).—The mine has not been reopened during the year.

Waimea Coal-pit, Waimea Village, Waimea.—This pit has been idle throughout the year.

Radford's Coal-pit, Balfour (E. Fitzgerald, owner).—Only 152 tons of coal were mined from this property in the early part of the year.

H. Studholme's Coal-pit (late R. McKenzie's), Blackmount Station, Takitimo District.—Forty-five tons of coal were mined from this pit for private and station requirements.

Waimumu Coal-pit, Mataura (C. P. Sleeman, owner).—(10/10/1906): Operations have been conducted on the usual good lines throughout the year. Two faces are now opened up, and steady supplies are drawn from them. 8,215 tons of lignite were raised and sold during the year. Powder carefully stored and handled. Seven men generally employed.

Boghead Coal-pit, Mataura (A. Cameron and James Duncan, lessces).—(10/10/1906): 375 tons of coal were raised during the early part of the year, but work was suspended in March, and the pit has been flooded since that month.

Mataura Lignite-pit, Mataura (Beattie, Coster, and Co., owners; W. Coster, manager).—(10/10/1906): Opencast pit in good working-order. Large area of overburden stripped in advance of working-face. Powder well stored and canisters provided for use. 7,427 tons of lignite were raised and sold during the year. Nine men generally employed.

McGilvray's Coal-pit (late Mutch's), Mataura.—No coal was mined from this pit, but 14 tons of hæmatite were raised for the Mataura Paper Mills.

Waimumu Colliery Company, Waimumu (H. W. Royds, secretary; W. J. Williams, manager).—(12/9/1906): This pit is worked on the opencast system. On this visit I found that the overlying clay had not been kept sufficiently well stripped back from the working-face and haulage-road. In consequence of the wet weather the overburden had slipped over the face. I instructed the manager to withdraw the men from the coal and clear off the overburden to a safe distance. (17/10/1906): Revisited the pit on this date, and found that a large area of the overburden had been cleared off with ploughs and scoops. 4,314 tons were raised and sold during the year, principally for the supply of dredges working in the Waimumu Valley. Powder well stored and handled. Ten men employed.

Nightcaps Colliery, Nightcaps (J. Lloyd, mine-manager; William Handyside, managing director).—(14/10/1906): No. 1 district, north-going and dip sections: Under the policy of development in advance as hitherto carried out boundaries to rise of water-free level have been reached, consequently extraction of pillar and head coal is now in full swing. Large quantities of timber are used for protection of the workmen, and many crib log buildings erected on roadsides for support of roof on the lips of the waste are rendered necessary by reason of the numerous clay backs which occur at irregular angles in the coal-seams. No. 2 district (pillars): Robbing of pillar and head coal continues to be safely done. The district is drawing homeward gradually. Timber plentifully used, most of which is withdrawn and used over again. The ventilation of the colliery is generally good, as the fan is working well within

its power. In far-in levels, &c., brattice is carried to working-faces for ventilation as required. The opencast workings continue to furnish a considerable proportion of the total output. Stripping of overburden systematically carried out and workings are safely conducted. All plant and machinery maintained in good working-order. Report-books and plans to date.

Hit or Miss Coal-mine, Nightcaps (William Tinker, lessee, permit).—(27/9/1906): At this date the lessee was busy putting in a new drive to reach the coal-seam on adjoining sections. The mine is unwatered by means of syphon.

Lamont's Coal-mine (H.B.), Nightcaps (D. McKenzie, permit).—603 tons of coal were raised from this mine during the year. The mine is now closed.

Morley Coal-pit, Nightcaps (G. R. Spence).—Opencast pit, from which 1,167 tons of coal have been taken during the year.

McBride's Coal-mine, Nightcaps (William Reed, lessee, permit).—(27/9/1906): Driving a level westerly on strike of the coal, the intention being to thereby prove an area of 10 acres held by McKenzie and Cousins and lying to westward of McBride's section. Meanwhile coal is carted a distance of three miles to Wairia Railway-station, but a proposal is afoot to lay down a tramway to the station.

The Willow Coal-pit, Nightcaps (John Clark).—330 tons of coal were mined for local requirements from this opencast pit during the year.

Groves's Coal-pit, Manuka Hill, Nightcaps (George Groves).—(27/9/1906): A new pit. A wooden tram-line, 60 chains in length, has been laid to the opencast pit at the foot of the hill.

Hogan's Lignite License, Orepuki (Cornelius Hogan, licensee).—Opencast pit. Four tons of lignite were raised during the year. An inferior seam of lignite, 8 ft. in thickness, occurs on the banks of Falls Creek. There is nothing doing, and from appearances the pit is closed down, if not abandoned.

Bush Siding Coal-pit, Seaward Bush (I. W. Raymond, late R. W. Robson, lessee; F. Bowden, manager).—(29/8/1906): Working opencast on north side of railway-line. Seam, 20 ft. Stripping of clay, 6 ft. to 8 ft., is kept fairly well in advance of working-face.

Thomas Gillies's Coal-pit, Clifton.—The pit is still flooded owing to the small pump being unable to cope with surface drainage, and no coal has been mined during the year.

REMARKS.

Contributions by coal-owners to the Coal-miners' Relief Fund amounted to £465 16s. 7d., while payments from the fund to the amount of £416 18s. 11d. have been recommended on account of accidents which have occurred in and about coal-mines in this district during the year.

ACCIDENTS.

During the year 118 cases of accident were reported to me, three resulting fatally, while nine might be termed serious, and the balance, 106—mainly trivial accidents incidental to the calling—were chiefly reported to me in connection with claims for relief from the Coal-miners' Relief Fund, there being no Sick and Accident Fund in connection with the miners' associations in the district. For various reasons eleven of the claims were not prosecuted by the claimants.

All accidents of a serious nature were inquired into and reports thereon duly forwarded to you by me.

FATAL ACCIDENTS.

5th February, 1906.—Alexander Bennie, fifty-one, miner, Kaitangata Colliery, Kaitangata: Fatally injured by fall of coal at face.

8th November, 1906.—Frederick Olive Anderson, forty-seven, acting assistant manager, and William Lee, twenty-four, mechanical engineer, Kaitangata Colliery: Suffocated by foul gases in return airway.

Non-fatal (Serious) Accidents.

26th May, 1906.—Joseph Terry, repairer, Castle Hill Colliery, Kaitangata: Fractured rib, injuries to chest, lung, and head; struck by runaway box on heading. 164 days off work.

26th May, 1906.—Joseph Lamberton, miner, Heffernan's Colliery, Gore: Fracture of fibula by piece of coal rolling on to leg. Seventy-two days off work.

25th July, 1906.—Neil McAllister, assistant manager, and Charles Milne, repairer, Kaitangata Colliery, Kaitangata: Severe burns about face, hands, and body by small fall of heated sand and live coal which fell from brick-wall fire-stopping. 142 and 143 days off work respectively.

10th October, 1906.—John McCaughern and William Proctor, deputies, Kaitangata Colliery, Kaitangata: Burns of face and arms by ignition of firedamp. Each sixty-one days off work.

5th December, 1906.—John Ramsay, miner, Burnwell Coal-mine, Chatton: Injuries to head and back by fall of coal from roof.

17th December, 1906.—James Hill, banksman, sinking air-shaft, Kaitangata Colliery, Kaitangata: Severe burns of face, arms, and body by ignition of firedamp at surface.

17th December, 1906.—David Coulter, miner, sinking air-shaft, Kaitangata Colliery, Kaitangata: Burns of face, neck, and arms by ignition of firedamp at surface. Forty-nine days off work.

I have, &c.,

E. R. GREEN,
Inspector of Mines.

APPENDIX B.

PAPERS SET AT THE 1906 MINE-MANAGERS' EXAMINATIONS.

EXAMINATION OF CANDIDATES FOR CERTIFICATES OF COMPETENCY AS FIRST-CLASS MINING-MANAGERS.

SUBJECT NO. 1.—*On Shaft-sinking, Tunnelling, and Opening out a Colliery.*

1. If you were charged with the exploitation of a coal lease of 2,500 acres, and the strata were monoclinal, what preparatory measures would you adopt; also, how would you determine the position of shafts and service equipments?
2. Describe and show by sketches the various methods of sinking through heavily watered alluvial deposits. If portion of a shaft 18 ft. diameter in the clear is to be lined with cast-iron tubing, with water-pressure thereon of 197 lb. per square inch, what thickness of metal would you have put in?
3. What are the dangers to be apprehended from the turning and oscillation of the sinking bucket in a deep shaft? Show by sketch a suitable apparatus to prevent such; and how is it fixed?
4. Describe the method of putting in a bricking curb in a sinking shaft, also of putting in a length of brickwork; likewise the method of putting in a water-ring. What precautions should be taken during these operations (a) if inflammable gas is given off, (b) if the sinking is in hard ground?
5. Two shafts, 1,750 ft. and 1,785 ft. deep respectively, are sunk from a level surface to a gassy seam 5 ft. thick, having inclination of 1 in 10, with a soft floor: give dimensions of shaft-pillars, and state which shaft you would make the upcast, and why. Show by sketches position of shafts and shaft-pillars, arrangement of pit-bottom, position of main intake and return airways, direction of air-currents through workings to upcast. Give sizes of air-courses and roadways. Provide for a daily output of 1,300 tons.
6. Describe and show by sketches the different kinds of cage-conductors used in shafts, and the various methods of arranging and fixing same.

SUBJECT NO. 2.—*On working Coal, and timbering underground.*

1. Explain the advantages and disadvantages of bord-and-pillar and longwall methods of working coal-seams, respectively. Describe and show by sketches the system of working under the foregoing methods.
2. Given a coal property of 1,200 acres, with a seam 6 ft. 3 in. thick, dipping 1 in 18, and a cover of 1,100 ft., with hard bottom and tender roof, what system of working would you adopt, and why? Show by sketch how you would lay out the workings.
3. Explain the different causes of "creep," and give sketches showing effect of same; also describe what precautionary measures you would adopt to obviate "creep" under the various conditions.
4. Describe, and show by sketches, how you would set props, also timber sets, for the support of the roof in a seam having an inclination of 30°; likewise how you would secure a longwall face, with tender roof and floor, the seam being 4 ft. 9 in. thick, and inclination 1 in 5.
5. Calculate the diameter of a circular beam of timber, 12 ft. between supports, and load distributed, for a breaking-strain of $100\frac{1}{2}$ tons (coefficient of rupture, .75).
6. Describe, and show by sketches, in plan and side elevation, the different systems of working and timbering places, both in flat and very steep seams, also the method of securing the working-faces under both conditions, whilst holing and cutting.
7. Describe, and illustrate by sketches, different methods of pillar-working, and explain the principal dangers to be guarded against during extraction.

SUBJECT NO. 3.—*On the Gases of Mines, Spontaneous Combustion, and Ventilation.*

1. Give the chemical properties of firedamp and black damp, and their weights compared with atmospheric air. State the residual gases from an explosion of firedamp, and what are their properties and effect on human life.
2. Under what conditions may a small amount of explosive gas render a mine exceedingly dangerous? Also, if a quantity of gas occupies 19,750 cubic feet when the barometer reads 30.3 in., how and in what manner will the volume be affected if the barometer falls to 28.4 in.?
3. It is required to travel 90,000 cubic feet of air per minute through an airway 18 ft. wide by 8 ft. high, and 1,790 yards long: what pressure will be needed to do so? Give answer in feet of air-column, and also inches of water gauge; likewise show what quantity of air would pass if water gauge doubled.
4. State what are the causes of spontaneous combustion in mines; also name the gases generated by gob-fires, and describe their properties and action on human beings. In a seam liable to spontaneous combustion, what precautions would you take to obviate the occurrence of fires?
5. Describe the various systems of ventilation in mines. Show sketches of an overcast and under-cast, and describe their uses; also explain the uses of regulators, doors, and stoppings. State the most advantageous method of splitting air, and its limit.
6. Forty thousand cubic feet of air per minute is split into three airways, A, B, and C: A is 1,400 yards long, 4 ft. high, and 6 ft. wide; B 1,000 fathoms long, 5 ft. by 7 ft.; and C is 7,500 ft., and 6 ft. by 12 ft.: what quantity will each get?
7. A volume of 310,000 cubic feet of air per minute is passing in a downcast shaft 18 ft. diameter and 1,300 ft. deep: what is the extent of rubbing-surface, also the velocity of air per second?

SUBJECT No. 4.—*On dealing with Old Workings and other Sources of Danger.*

1. State what dangers are liable to arise from extensive old workings in a mine, and what precautionary measures you would adopt to obviate same and prevent accident.
2. What would you consider dangerous explosives to use in dry and dusty mines? Where you permitted explosives to be used in such mines, what precautions would you take, and what instructions would you give?
3. Assuming you were in the workings of a mine, in charge, and an active fire broke out on the main intake airway, what steps would you take for the safety of the workmen?
4. Describe the various types of water-dams used in mines. Assuming a feeder of 3,000 gallons per hour has to be dammed off, explain and illustrate by sketches how you would construct a dam to do so, in a place 12 ft. wide by 6 ft. high, and to withstand an ultimate pressure of 300 lb. to the square inch; give the head of water in feet for said pressure, also total weight in tons against the dam.
5. Enumerate the causes of coal-dust explosions in mines, and explain measures you would take for their prevention.
6. Describe in detail the steps you would take if charged with the direction of operations immediately after an explosion in a coal-mine operated by shafts, and the ventilation effected mechanically, but the appliances for the latter damaged by the explosion.
7. What accidents are liable to occur from the use of naked lights in mines? In a mine worked with naked lights, describe fully the conditions which would necessitate the introduction of safety-lamps.

SUBJECT No. 5.—*On Steam Boilers and Engines used about Mines.*

1. Describe the various types of steam-boilers in use at collieries, and show sketch of any one type with the necessary mountings in position; also calculate the safe working-pressure of steam for a Lancashire boiler 28 ft. 6 in. by 8 ft., with double-riveted steel plates 0.875 in. thick.
2. Enumerate the various kinds of mechanical stokers; describe the principle upon which they operate, and explain the chief points of their utility; also show by sketch a longitudinal section of a boiler-furnace fitted with a chain-grate stoker.
3. In operating steam boilers and engines, what important measures is it imperative to observe whereby accidents may be avoided?
4. An underground haulage-engine with pair cylinders 12 in. diameter has to be driven by compressed air at 60 lb. per square inch ordinary pressure: show diameter of single-stage air-compressing cylinders required to compress sufficient air to maintain the said pressure, assuming uniform speed of air-compressors and haulage-engine.
5. A pair of capstan engines have cylinders 12 in. diameter and 2 ft. stroke; the effective steam-pressure is 90 lb. per square inch; the pinion and spur wheels between first and second shafts are 2 ft. and 5 ft. 6 in. diameter, and between second and third shafts 1 ft. 6 in. and 6 ft. diameter; the capstan-drum is 5 ft. 9 in. diameter: what load can be lifted, not calculating friction?
6. Calculate the thickness of metal required in a cast-iron pipe 7 in. internal diameter for a working-pressure of 120 lb. of steam per square inch; also give sketch, both plan and section, of a stuffing-box and gland steam-pipe expansion joint.
7. A fan produces 90,000 cubic feet of air per minute, at 80 revolutions, with 2.3 in. water gauge: calculate the horse-power of fan, also engine, taking useful effect of fan at 65 per cent. Also, what would be quantity of air, water gauge, horse-power of fan, and horse-power of engine if fan-speed reduced to 60 revolutions? With direct-coupled engine, calculate diameter of steam-cylinder and thickness of metal, also length of stroke, to drive fan at 80 revolutions; mean effective steam-pressure, 80 lb. per square inch.

SUBJECT No. 6.—*On Mine Drainage and Haulage, and Appliances for same.*

1. Seven hundred tons of coal are to be hauled in eight hours by endless rope; gradient against the load, 1 in 7; length of road, 1,850 yards; average effective pressure of steam on piston, 80 lb. per square inch; piston-speed, 280 ft.; speed of rope, $2\frac{1}{4}$ miles per hour; empty tubs weigh 5 cwt. each, and when loaded carry 12 cwt. of coal: calculate size of pair of engines to effectively do this work, also the ratio of gearing.
2. Sketch in detail a longitudinal vertical section through the centre of the steam and water chambers of a direct-acting steam-pump; also describe the principle of, and show by sketch, a mine-pump actuated by a column of water.
3. A pair of winding-engines have cylinders 30 in. in diameter, with stroke 5 ft., the effective steam-pressure on piston being 90 lb. per square inch: calculate the maximum diameter the drum can be made whereby the engines can lift an unbalanced load of $5\frac{1}{2}$ tons. (Allow one-third for friction, and reckon upon one engine to lift the load.)
4. Describe the modern appliances used in connection with coal-winding arrangements, to give the maximum amount of safety; also describe and show by sketches the onsetting and banking-out arrangements of a deep winding-shaft, to deal with an output of 1,200 tons in eight hours.
5. Describe briefly, and illustrate by sketches, the various arrangements adopted for taking up slack rope in endless-rope haulage; also explain the methods of communication between different stations on a haulage system.
6. The delivery column of a steam-driven double direct-acting pump is 2,000 ft. long; the first 300 ft. rises 1 in 5, next 600 ft. 1 in 4, next 540 ft. 1 in 3, and the last 560 ft. are vertical: what is the pressure per circular inch on the plungers? The discharge is 30,000 gallons of water per hour at pump-speed of 100 ft. per minute: calculate size of pistons, plungers, also of suction, delivery, and steam pipes.

SUBJECT No. 7.—On Geology, Surveying, and making Plans.

1. Describe the various strata, in descending order, superimposed over any coal-seams in this colony of which you have knowledge; likewise name and describe the action of the geological agencies which operate on the earth's crust.
2. Show by sketches the effect upon coal-seams of faults and igneous dykes, and explain the common action of such on the adjacent coal.
3. Explain the various reasons which make underground surveys necessary in conjunction with the practical working of a mine; also state what are the advantages of having the levels marked on colliery-plans.
4. A rectangular coal lease contains 420 acres, the width is $22\frac{3}{11}$ chains: what is the length in chains? Also, what would be the length of the side of a square of equal area?
5. Candidates to produce plan showing the workings of a colliery with the surface taken up for at least 20 acres in the vicinity of the shaft or adit, the workings to be shown in colours. The connection between the surface and underground must be shown and described in the event of there being only one shaft. The levels and main headings must have assumed traverse calculated in detail, and showing latitude and departure for each bearing. The plan to be candidate's own work, and to be accompanied by field-book.
6. The perimeter of a triangular reservoir is 61 chains; A-B is $\frac{5}{8}$ of A-C, and 3 chains longer than B-C: find the length of each side.
7. Plot the following bearings with protractor and scale, and calculate the latitude and departure and give course and length from G to A:—
 - A-B, N. $41^{\circ} 30'$ E., 520 links.
 - B-C, E. 450 links.
 - C-D, N. $9^{\circ} 15'$ E., 450 links.
 - D-E, S. $69^{\circ} 30'$ E., 500 links.
 - E-F, S. $36^{\circ} 25'$ E., 750 links.
 - F-G, S. $42^{\circ} 45'$ W., 450 links.
8. What instruments are necessary for making an accurate survey and level? Describe how you would adjust and test the accuracy of each instrument.

SUBJECT No. 8.—Arithmetic, and a Knowledge of "The Coal-mines Act, 1905."

1. In portion of a coalfield containing 380 acres the seam is 7 ft. 6 in. thick, yielding $\frac{3}{8}$ of a ton per cubic yard; 20 per cent. is lost through faults and in working; the miners produce 80 per cent. of large and 20 per cent. of small coal: what are the total amounts paid for hewing at the rates of 1s. $10\frac{1}{2}$ d. per ton for large and 8 $\frac{1}{2}$ d. per ton for small, and for royalty at 6d. and 3d. per ton on large and small coal respectively?
2. A shaft 200 fathoms deep has to be bricked to a finished diameter of 18 ft. clear, with an average of 14 in. of brickwork: state how many rods of brickwork required, and the number of bricks, standard size, to complete the work; also show in cubic feet the quantity of *débris* excavated during the sinking of the shaft.
3. A mine-reservoir covers 1 acre 1 rood 11 poles $17\frac{1}{4}$ yards of ground, and contains 5,400,000 gallons of water: what is its average depth?
4. In a 7 ft. seam of coal, the headings, 9 ft. wide, are being driven at the rate of 14s. $2\frac{1}{10}$ d. per lineal yard; it is desired to alter this system to a tonnage rate: what price per ton would equal the cost per yard, a cubic yard of coal weighing 0.9 of a ton?
5. How many gallons of water per minute should a pump deliver to lower a lodgment of 28 acres a depth of $\frac{1}{2}$ in. per twenty-four hours, working constantly, and with a regular feeder of 90 $\frac{1}{2}$ gallons per minute flowing into lodgment?
6. The cost of getting out and putting into wagons of 295,000 tons of coal is 5s. $9\frac{1}{2}$ d. per ton, the other expenses amounting to 4s. $2\frac{1}{2}$ d. per ton: find the total profit if 70 per cent. of the coal is sold at 13s. per ton and the remainder at 9s. 6d. per ton, a discount of 5 per cent. being allowed to purchaser.
7. Fifty thousand gallons of water has to flow through a 3 in. pipe at a velocity of 220 ft. per minute: how long will it take to run the water off?
8. Briefly state the requirements of "The Coal-mines Act, 1905," as to—
 - (a) Ropes, chains, and machinery;
 - (b) Securing of shafts;
 - (c) Ventilation;
 - (d) Withdrawal of workmen, &c. ;]
 - (e) Plan of workings;
 - (f) Serious accidents;
 - (g) The use of safety-lamps.

LIST OF PERSONS WHO HAVE OBTAINED CERTIFICATES AS MINE-MANAGERS UNDER THE COAL-MINES ACTS.

FIRST-CLASS MINE-MANAGERS' CERTIFICATES.

Issued under the Coal-mines Acts, 1886 and 1891.

Aitken, T., Wendon.	Gray, J., Abbotsford.	*Redshaw, W., Whangarei.
Alexander, T., Brunnerton.	*Harrison, J., Brunnerton.	Reed, F., Westport.
Austin, J., Sheffield.	Irving, J., Kaitangata.	*Richardson, D., Abbotsford.
Binns, G. J., Dunedin.	Jemison, W., Waimangaroa.	Shore, J., Kaitangata.
Bishop, J., Brunnerton.	Kenyon, J., Shag Point.	Shore, T., Orepuki.
*Brown, T., Westport.	Kerr, G., Kamo.	*Shore, W. M., Kaitangata.
Brown, T., Glentunnel.	Lindsay, W., Otago.	*Smart, W., Christchurch.
Cameron, J., Denniston.	Lloyd, J., Invercargill.	Smith, A. E., Nelson.
Campbell, J. C., Fairfield.	*Louden, J., Green Island.	Smith, T. F., Nelson.
Cochrane, N. D., Dunedin.	Love, A., Whangarei.	Sneddon, J., Mosgiel.
Collins, W., Taupiri.	Mason, J., Nightcaps.	Swinbanks, J., Kawakawa.
Dando, M., Brunnerton.	May, J., Greymouth.	Taylor, E. B., Huntly.
*Elliott, R., Wallsend.	Moody, T. P., Kawakawa.	Thompson, A., White Cliffs.
Ferguson, A., White Cliffs.	Moore, W. J., Springfield.	Walker, J., Collingwood.
*Freeman, J., Green Island.	Nelson, J., Green Island.	Williams, W. H., Shag Point.
*Geary, J., Kamo.	Ord, J., Huntly.	

First-class Certificates issued after Examination under the Coal-mines Acts, 1886, 1891, and 1905.

Armitage, F. W., Auckland.	Fletcher, James, Granity.	McCormack, W., Denniston.
Armstrong, J., Brunnerton.	Fry, Sydney, Waimangaroa.	McEwan, Robert, Coromandel.
Barclay, T., Kaitangata.	Gibson, John, Westport.	McGeachie, J., Mokau.
Barclay, W., Kaitangata.	Gillanders, A., Shag Point.	Milligan, N., Westport.
Bennie, Boyd, Waihi.	Gowans, W., Millerton.	Morgan, Wm., Waihi.
Brown, J. C., Denniston.	Green, E. R., Abbotsford.	Murray, T., Westport.
Campbell, Peter, Fairfield.	Green, J., Brunnerton.	*Newsome, F., Denniston.
Carruthers, J., Shag Point.	Hamilton, J. S., Burnett's Face.	Newton, James, Brunnerton.
Carson, W., Kaitangata.	Herd, J., Brunnerton.	Shore, Joseph, Kaitangata.
Coombe, J., Waihi.	Hill, Robert, Abbotsford.	Smith, George, Fairfield.
Coulthard, J., Taylorville.	Hosking, G. F., Auckland.	Sowerby, H., Denniston.
Dixon, C. W., Granity.	*Hughes, D., Preservation Inlet.	Tattley, E. W., Huntly.
Dixon, W. jun., Kaitangata.	Jebson, D., Canterbury.	Tattley, F. J., Mercer.
Duggan, George, Burnett's Face.	Johnson, W. P., Thames.	Taylor, A. H., Waikato.
Dunn, Andrew, Denniston.	Leitch, J., Blackball.	Thomson, Thomas, Denniston.
Dunn, W., Brunnerton.	Leitch, W., Blackball.	Turner, G. F., Shag Point.
Dunn, W. R., Thames.	Marshall, A. G., Denniston.	Westfield, C. H., Fairfield.
Elliott, R., jun., Denniston.	McCaffrey, Patrick, Ferntown.	Young, James H., Waimangaroa.
Fleming, J., Kaitangata.		

Mine-managers' Certificates, issued on Production of English Certificate, under "The Coal-mines Act, 1886."

Binns, G. J., Dunedin.	*Garrett, J. H., Auckland.	Macalister, J., Invercargill.
Black, T. H., Waipori.	Hayes, J., Kaitangata.	*Nimmo, J., Oamaru.
Broome, G. H., Ngakawau.	Hodgson, J. W., Ross.	*Straw, M., Westport.
Cater, T., Auckland.	*Lindop, A. B., Springfield.	Tattley, W., Auckland.
Cochrane, N. D., Dunedin.		

First-class Mine-managers' Certificates, issued to Inspectors of Mines by virtue of Office, under the Coal-mines Acts of 1886 and 1891.

Coutts, J., Thames.	*Gow, J., Dunedin.	*Wilson, G., Thames.
Gordon, H. A., Wellington.	McLaren, J. M., Thames.	

Mine-managers' Certificates, issued on Production of Certificate from a recognised Authority outside the Colony, under the Coal-mines Acts of 1891 and 1905.

Alison, R., Greymouth.	*Jordan, R. S., Kaitangata.	Tennent, R., Brunnerton.
Dixon, J., Westport.	Kirkwood, D., Coromandel.	Twining, C. E., Dunedin.
Fletcher, George, Westport.	Lewis, W., Blackball.	Watson, James, Greymouth.
Frame, Joseph, Kaitangata.	Pollock, James, Green Island, Otago.	Wight, E. S., Auckland.
Goold, A. L., Auckland.	*Proud, Joseph, Wanganui.	Wood, William, Mokihinui.
Irvine, James, Dunedin.	Scott, Joseph, Ngahere.	

SECOND-CLASS MINE-MANAGERS' SERVICE CERTIFICATES.

Issued under "The Coal-mines Act, 1905."

Carson, M., Kaitangata.	Longstaff, H. C., Kaitangata.	*Roberts, John, Brunnerton.
Collier, Levi, Kamo.	Love, Alexander, Orepuki.	*Ross, John, Kawakawa.
Clarke, Edward, Shag Point.	McCall, John, Wellington.	Sara, James, Reefton.
Elliot, Joseph, Coal Creek.	McGeachie, J., jun., Mokau.	Smith, Charles, Whangarei.
Harris, John, Denniston.	McIntosh, Allan, Shag Point.	Thomas, James, Springfield.
Herd, Joseph, Brunnerton.	McLaren, J. M., Thames.	Wallace, William, Huntly.
Howie, James, Kaitangata.	Marshall, J., Ngakawau.	Willetts, John, Papakaio.
Leeming, William, White Cliffs.	Murray, Thomas, Denniston.	*Willetts, John Morris, Papakaio.
Lennox, W., Springfield.	*Nimmo, George Stewart, Ngapara.	Young, William, Waimangaroa.
Lobb, Joseph, Mokau.	Radcliffe, William, Reefton.	

* Deceased since issue of certificates.

Second-class Certificates issued after Examination under the Coal-mines Acts, 1886, 1891, and 1905.

Austin, W. B., Sheffield.	Dixon, W., jun., Kaitangata.	McNeill, D., Fairfield.
Barber, John, Shag Point.	Doel, G., Lovell's Flat.	Neilson, Moffat, Abbotsford.
Barclay, T., Kaitangata.	Duncan, James, Kaitangata.	Ogilvie, W. W., Saddle Hill.
Barclay, T., jun., Kaitangata.	Duncan, J. E., Kaitangata.	Orr, Hugh, Fairfield.
Barclay, Wm., Kaitangata.	Duncan, John, Lovell's Flat.	Parcell, W., jun., Bannockburn.
Barnes, A. E., Shag Point.	Fox, R. A., Blackball.	Penman, C. P., Kaitangata.
Brown, Robert, Kaitangata.	Harris, A., Saddle Hill.	Price, F. J., Burnett's Face.
Cadman, J., Hikurangi.	Hill, R., Abbotsford.	Snow, T., Mercer.
Campbell, Peter, Fairfield.	Hodson, John, Kaitangata.	Tattley, F. J., Mercer.
Charles, E., Glentunnel.	Hunter, A., Southland.	Taylor, Joseph, Collingwood.
Cherrie, R. C., Mokau.	Kells, F. H., Denniston.	Thompson, Joseph, Blackball.
Christie, James, Saddle Hill.	Lindsay, J. B., Orepuki.	Waldie, A. B., Mokau.
Clemo, G., Whangarei.	McAllister, Neil, Kaitangata.	Westfield, C., Fairfield, Otago.
Craig, John, Coal Creek Flat.	McLelland, J., Kaitangata.	Whittleston, A. W., Shag Point.
Dale, E. G., Kaitangata.	McLelland, A. C., Kaitangata.	

APPENDIX C.

SECTION VII.—STATISTICS OF WORKINGS IN COAL-MINES, 1906.

Name of Mine and Locality.	Name of Manager.	Number of Years worked.	Quality of Coal.	No. of Beams worked.	Thickness of Beams.	Thickness worked.	Dip of Beam.	System of Underground Working.	Dimensions of Shafts.		Output delivered by	Output for 1906.			Approximate Total Output to 31st December, 1906.	Approximate Total Output to 31st December, 1906.	Number of Men ordinarily employed.			Power used for drawing Mineral.	Pumps.			Means of Ventilation.	Date of Inspector's Last Visit	
									Number of Shafts.	Depth of Shaft or Length of Adit.		Tons.	Tons.	Tons.			Above.	Below.	Total.		Stroke.	Size of Barrel.	Height of Column.			
NORTHERN DISTRICT.																										
KAWAKAWA DISTRICT.																										
Kawakawa Mine ..	Neill, S.	8	semi-bitum.	1	pillars 6'	6'	1 in 3	bord and pillar	15' 6" x 8' 6" x 5' 5"	200'	adit	Tons. 275	Tons. 275	Tons. 275	71,598	71,873	9	..	9	horse	..	..	..	..	..
HIKURANGI DISTRICT.																										
Hikurangi Coal Company ..	Moody, T. P.	14	ditto	1	7' to 12' 7'	7' to 10' 6"	1 in 6	ditto	4' 6" x 5'	264'	..	52,709	..	..	52,709	411,004	8	68	76	horse and steam	10" 8" 10"	50' 50'	natural	12/12/06	
Northern Coal Company ..	Dunn, W. R.	9	..	1	6' to 9'	6' to 9'	1 in 10	..	9' x 6'	1,782'	..	46,711	..	..	46,711	138,762	12	58	70	ditto	..	..	..	11/12/06	
Waro Co-operative Coal Company (late Phoenix and West Bryan's)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	79,371	..	..	..	..	..	..	..	..
Ngunguru DISTRICT.																										
Ngunguru Mine ..	Tattley, E. W.	14	semi-bitum.	1	2' to 5'	2' to 5'	1 in 6	extracting pillars	..	..	adit	1,448	..	..	1,448	194,006	12	37	49	steam	8" 6"	100' 90'	fan	11/12/06	
Panipo (Kiripaka) ..	..	7½	ditto	1	13' to 20'	11' to 20'	1 in 6	bord and pillar	9' x 6'	262'	..	19,557	..	..	19,557	76,326	..	..	..	..	..	..	..	..
WAIKATO DISTRICT.																										
Waikato Mine (stopped)	Wight, E. S.	18½	brown	1	10' to 30'	20'	1 in 10	bord and pillar	27' diam. 8' x 6'	..	..	45,408	12,100	..	..	209,089	772,127	..	..	..	steam	12" 7"	220'	steam	18/10/06
Taupiri Extended ..	..	19½	..	1	10' to 24'	18'	1 in 8	ditto	110' x 10'	..	..	6,158	66	..	..	6,224	310,725	8	11	..	..	12" 5"	210'	fan	19/10/06
Taupiri Reserve ..	..	16½	..	1	10' to 50'	20'	1 in 10	..	29' 6" x 5' 8' 6"	..	..	68,697	20,159	..	..	88,856	384,607	81	128	159	..	12" 24"	190' 260'	..	17/10/06
Ralph's Taupiri ..	..	4½	..	1	18' to 24'	12'	1 in 7	..	2 7' x 6' 6' x 6'	800' 184'	adit	8,131	..	..	8,131	17,542	8	2	5	horse	..	..	natural	9/8/06	
Taupiri South (Harrison's) ..	Duncan, J.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
MOKAU DISTRICT.																										
Mangapapa Mine ..	Lennox, W.	22	..	1	6' to 8'	6' to 8'	1 in 10	..	9' x 6'	1,752'	..	4,244	..	..	4,244	43,755	2	11	13	..	..	..	furnace	31/8/06	

STATISTICS OF WORKINGS IN COAL-MINES, 1906—continued.

Name of Mine and Locality.	Name of Manager.	Number of Years worked.	Quality of Coal.	No. of Beams worked.	Thickness of Beams.	Thickness worked.	Dip of Beam.	System of Working.	Dimensions of Shafts.		Output delivered by	Output for 1906.			Approximate Total Output to 31st December, 1906.	Approximate Total Output to 31st December, 1906.	Tons.	Tons.	Number of Men ordinarily employed.		Power used for drawing Mineral.	Pumps.			Means of Ventilation.	Date of Inspector's Last Visit.
									Size of Shaft or Adit.	Depth of Shaft or Length of Adit.		Coal.	Slack.	Total.					Above.	Below.		Stroke.	Size of Barrel.	Height of Column.		
WEST COAST DISTRICT—continued.																										
BARNOL.																										
Burke's Creek ..	Cairns, Robert ..	5	brown.	1	12'	10'	1 in 6	bord and pillar	..	7' x 6'	No. 1, 500' No. 2, 280' No. 3, 180' No. 4, 140'	adit	Tons. 130 ..	Tons. 130 ..	Tons. 130 ..	Tons. 5,827	Tons. 5,967	1	2	3 manual	..	..	..	natural	14/12/06
Murray Creek ..	Billett, James ..	27	bitum.	1	12'	all	variable	open face	..	..	..	..	242 2,980	3,172	18,305	21,477	4	..	4	..	..	..	..	..	17/12/06
Phoenix and Venus, Murray Creek	Knight, John ..	25	..	2	20'	10'	1 in 1	bord and pillar	..	4' 6" x 5' 6"	250'	adit	1,263 200	1,463	21,598	23,061	8	4	7 manual	..	..	..	natural	27/12/06	
Waikahu ..	Meehen, Robert..	4	semi-bitum.	2	12' & 6' 8" and 5'	5'	1 in 3	pillar ditto	..	6' x 8'	600'	..	288 ..	288	470	758	1	1	2	..	..	..	..	..	14/12/06
Reefton ..	Harris, John ..	4	brown	1	10'	8'	1 in 4	..	..	6' x 4'	600'	..	360 155	515	1,246	1,761	2	1	3	..	..	..	..	..	13/12/06
Lankey's Creek ..	Pascoe, Simon ..	4	semi-bitum.	1	10'	8'	1 in 25	..	..	6' x 4'	500'	..	575 ..	575	9,218	9,798	..	2	2	..	..	..	..	..	13/12/06
Progress ..	Kearns, R. L. ..	9	pitch	1	5'	5'	28°	stall and pillar	..	6' x 4'	200'	level adit	.. 2,957	2,957	21,190	24,147	1	5	6	..	..	..	..	..	17/12/06
GREYMOUTH.																										
Paparoa..	Watson, J. T. ..	..	..	..	..	..	..	..	..	11' x 7'	..	..	.. ..	..	..	..	160	..	160	..	..	..	..	..	11/12/06
Blackball ..	Leitch, Walter ..	16	bitum.	2	17'	15'	1 in 6	bord and pillar	..	9' x 6'	1,232'	adit	60,917 12,770	73,687	774,502	848,189	30	79	109 steam	..	..	..	fan	11/12/06	
Brunner, Brunner-ton	Coulthard, J. ..	42	..	1	110' to 12'	all	1 in 4	pillar ditto	..	8' x 7'	200'	..	15,016 6,660	21,676	2,145,555	2,167,231	12	15	27 horse	..	..	..	..	..	7/12/06
Tyneside, Brunner-ton	Armstrong, James	24	..	1	12'	12'	1 in 4	..	1	10' diameter	103'	shaft	40,241 21,806	61,547	118,346	179,898	50	120	170 steam	..	..	..	..	..	7/12/06
South Brunner (Fleming's lease)	Morgan, W. ..	1	..	1	2' 6"	2' 6"	40°	driving	1*	9' x 3'	50' (dip shaft)	adit	130 ..	130	..	130	1	7	8 manual	..	..	..	..	..	7/12/06
Point Elizabeth State Colliery	Herd, Joseph (mine manager); Bishop, James (general manager)	2½	..	1	8'	8'	1 in 24	bord and pillar	..	10' x 7'	No. 1 243 yd. No. 2 264 yd.	endless rope	163,800 ..	163,800	192,071	355,871	70	190	260 steam	..	..	..	..	..	6/12/06
Output of mines included in 1905 statement whose operations are suspended																	..	1,117,853	1,117,853							

* Underlay.

SOUTHERN DISTRICT

CANTABURY.		Taylor, James ..	30	brown	1	3' 3"	all	1 in 6	bord and pillar	2' 4' x 5'	70'	tunnel	138	..	138	89,745	89,978	..	2	2	steam	direct acting steam	exhaust steam from pump natural	4/12/06
Springfield, Springfield	Springfield Fireclay Works (late Victoria Mine), Springfield	Greening, Luke ..	6	..	1	4'	..	1 in 6	longwall	14' 6" x 3'	50'	adit	17	..	17	455	472	..	2	2	horse	..	..	4/12/06
Homebush, Glentunnel	Campbell, J. C. ..	84	..	..	16'	and 7'	..	1 in 8	bord and pillar	1' 6' x 6'	40 ch.	tunnel	13,491	1,985	15,426	182,776	198,202	4	41	45	horse & steam	..	..	21/12/06
St. Helens, White Cliffs	Levick, H. ..	25	..	..	4	8' 4' 6" 3'	..	1 in 3	pillar, slope, and wall	14' 6" x 3' 7"	90' 5 ch.	adit	1,365	..	1,365	13,865	15,220	1	5	6	hand	..	..	21/12/06
Mount Somers, Mount Somers	Thompson, A. ..	5	..	..	1	30'	10'	1 in 3	bord and pillar	1' 5' x 4'	25'	..	3,088	870	3,958	16,652	20,610	2	7	9	horse	..	..	19/12/06
Woolshed Creek, Mount Somers	Harris, Thomas (permit); Doak, W. T. (secretary)	42	..	..	1	40'	15'	1 in 9	ditto	..	..	..	952	2,977	3,929	49,136	53,065	2	4	6	..	..	..	19/12/06
Albury, Albury ..	Willetts, G. H. (late Willetts, J. M.)	15	..	..	1	10'	7'	1 in 1	..	14' x 3' 6"	68'	adit	853	..	853	7,138	7,981	1	4	5	..	..	..	21/11/06
Wahao Forks, Wahao Forks	Wahao Coal Syndicate (owners), Lomas, G. (permit)	14	lignite	1	6'	..	5'	..	..	5' x 4'	100'	..	712	..	712	1,148	1,860	4	5	9	..	..	..	22/11/06
Wahao, Wahao Forks	Grant, William ..	17	..	..	1	14'	all	..	..	5' x 4'	260'	..	..	..	..	2,032	2,032	..	..	..	hand	..	..	..
Elephant Hill, Wahao Downs	Mathias, L. ..	38	brown	1	10'	8'	8'	..	..	6' x 5'	..	..	85	..	85	477	562	..	1	1	..	..	..	..
Private Pits.																								
Dalethorpe, Springfield	Campbell, P. ..	12	..	..	1	6'	all	1 in 3	narrow	1' 4' x 4'	90'	shaft	25	..	25	343	368	..	..	..	hand	..	..	..
Snowdon, Rakia Gorge	Gerard, George ..	21	..	..	1	14'	8'	..	open	..	..	open	..	..	..	1,808	1,808	..	..	..	..	..	..	..
Craigieburn, West Coast Road	Manson, D. ..	10	..	..	1	..	..	..	levels	..	150 yd.	adit	50	..	50	274	324	..	..	..	..	..	..	..
Christchurch Lime Company (late Springfield Lime Company), Staveley	Scott, R. L. (secretary), Christchurch	6	..	..	1	5"	all	vertical	..	5' x 4'	..	..	..	..	..	901	901	..	..	..	..	..	..	..
NORTH OTAGO.																								
Dalgely, Hakataramea	Drysdale, J. ..	25	..	..	1	30'	..	semi-vertical	bord and pillar	..	..	..	140	..	140	2,377	2,517	..	1	1	..	..	..	..
Wharekuri, Wharekuri	Shanks, A. ..	..	..	..	1	40'	13'	vertical	levels	..	..	..	258	..	258	2,038	2,286	..	2	2	..	..	..	30/10/06
Kurov, Kurov	Cairns, W. B. ..	36	..	..	1	irregular	..	1 in 2 1/2	narrow	1' 4' x 3'	80'	dip incl.	..	..	..	11,395	11,395	..	..	..	..	..	..	30/11/06
Sanderson's (late Phillip's), Kurov	Sanderson, J. ..	10	..	..	1	indennite	30'	vertical	stopping	1' 8' x 6'	50'	dip-drive	396	..	396	2,389	2,785	..	1	1	horse	..	..	30/11/06
St. Andrew's, Papakaio	Nimmo, T. ..	28	..	..	1	6' 6"	6'	1 in 4	bord and pillar	14' x 2' 6"	60'	adit	1,489	..	1,489	36,492	37,981	1	4	5	..	..	..	23/11/06
Prince Alfred, Papakaio	Russell, Wm. (permit)	37	..	..	1	1' to 9'	all	1 in 9	ditto	1' 5 1/2' x 6'	51'	..	1,376	..	1,376	50,515	51,891	1	4	5	..	..	..	23/11/06
Ngapara, Ngapara...	Nimmo, W. ..	28	..	..	1	25'	8'	1 in 17	..	1' 4' x 4'	50'	..	1,244	..	1,244	22,001	23,245	1	2	3	..	..	..	14/8/06
Shag Point, Shag Point	Hunt, William ..	36	pitch	..	..	2' 6"	all	..	..	..	..	..	516	60	576	403,891	404,467	1	3	4	hand	..	..	25/06
Allandale, Shag Point	Westfield, C. H. ..	19	..	..	3	4' to 6'	..	1 in 4	bord and pillar & longwall	2' 10' x 6' 6' x 4'	1,000' 280'	inclined tunnel	13,858	7,570	21,428	251,607	273,035	12	61	73	electric	..	..	27/11/06
SOUTH OTAGO.																								
Fernhill, Abbotsford	Gray, J. ..	29	brown	1	19'	10'	10'	1 in 10	bord and pillar	1' 4 1/2' x 4 1/2'	50'	..	353	1,122	1,475	142,386	143,871	5	5	10	horse	..	..	14/11/06

STATISTICS OF WORKINGS IN COAL-MINES, 1906—continued.

Name of Mine and Locality.	Name of Manager.	Number of Years worked.	Quality of Coal.	No. of Seams worked.	Thickness of Seams.	Thickness worked.	Dip of Seam.	System of Underground Working.	Number of Shafts.	Dimensions of Shafts.		Output delivered by	Output for 1906.			Approximate Total Output to 31st December, 1906.	Approximate Total Output to 31st December, 1906.	Number of Men ordinarily employed.		Power used for drawing Mineral.	Pumps.		Means of Ventilation.	Date of Inspector's Last Visit.	
										Size of Shaft or Adit.	Depth of Shaft or Length of Adit.		Coal.	Slack.	Total.			Above.	Below.		Stroke.	Size of Barrel.			Height of Column.
SOUTHERN DISTRICT—continued.																									
SOUTH OTAGO—continued.																									
Freeman's, Abbotsoford ..	Sneddon, J. ..	26	brown	2	7' to 14'	6' to 7'	1 in 7	bord and pillar	8	6' x 5' 7' x 7'	1,400' 264'	inclined drive adit	Tons. 20,234	Tons. 2,269	Tons. 22,503	Tons. 317,843	Tons. 339,846	9	30	steam & horse	12"	5"	130'	furnace	14/11/06
Green Island, Green Island*	Barclay, W. ..	19	"	1	14'	10'	1 in 10	ditto	..	..	..	..	550	..	..	..	550	1	3	horse	..	..	..	natural	..
Jubilee, Walton Park ..	Campbell, P. ..	9	"	1	12' to 18'	8'	1 in 10	"	2	6' x 5'	4 ch.	"	15,767	3,985	19,752	86,108	105,855	5	27	steam & horse	..	..	..	furnace	19/9/06
Burnweil (including Glenciel), Saddle Hill	A. Harris..	15	"	1	20'	10'	variable	"	1	5' x 3'	30'	inclined tunnel	1,840	..	1,840	57,317	59,157	1	4	ditto	..	..	..	natural	19/9/06
Saddle Hill (No. 1), Saddle Hill	Ogilvie, W. W. ..	34	"	1	20'	8' to 16'	1 in 10	"	4	5' 10" x 4' 6"	264'	inclined drive adit	3,247	5,493	8,740	151,459	160,199	3	13	"	..	..	..	furnace	9/1/06
Saddle Hill (No. 2), Saddle Hill	Christie, James ..	5	"	1	20'	all	1 in 14	"	..	..	..	..	16,234	5,225	21,459	40,698	62,152	5	17	"	..	..	..	"	19/9/06
Mosgiel, Mosgiel ..	Orr, H. ..	22	"	1	8'	7'	1 in 10	"	2	4' x 4'	14 ch.	tunnel	842	502	1,344	97,153	98,497	2	4	..	..	..	..	"	19/9/06
Lauriston, Brighton ..	Walker, James ..	20	"	1	6'	5' 6"	variable	"	1	..	48'	"	249	..	249	6,514	6,763	1	2	horse	..	..	..	"	..
Brighton, Brighton ..	McColl, D. L. ..	18	"	1	6'	5' 6"	"	"	..	..	..	"	256	..	256	2,013	2,269	1	1	"	..	..	..	"	..
Fairbairn's, Tateri Mouth ..	Young, A. ..	23	"	1	10'	8'	1 in 8	"	..	10' x 8'	100'	tunnel adit	39	..	39	702	741	..	1	hand	..	..	..	natural	18/10/06
Bruce, Milton ..	Reid, James ..	12	"	1	15'	all	..	"	..	..	..	..	..	..	..	24,314	24,314	..	..	"	..	..	"	18/10/06	
Akatore, Milton ..	(Lovell's Flat Coal Co.) Carruthers, James ..	2	"	1	14'	8'	..	"	..	..	..	..	6,935	2,211	9,146	2,471	11,617	4	10	"	..	..	..	"	18/10/06
Real Mackay, Milton ..	Barclay, T. ..	2	"	..	..	..	..	"	..	..	..	..	12,042	..	12,042	8,754	15,796	7	20	steam	..	..	..	"	18/10/06
Bruce Railway and Coal Company, Milton	Hewitson, R. ..	36	lignite	1	20'	all	..	open	..	..	..	open incline	74	..	74	11,357	11,431	1	..	hand	..	..	..	"	12/13/06
Wallsend, Lovell's Flat ..	McSkimming, P. ..	43	"	3	80' in aggregate	12'	..	bord and pillar	..	4' x 4'	..	..	2,804	751	3,555	111,532	114,587	1	4	steam	..	..	..	natural	..
Benhar, Stirling ..	Park, F. ..	12	"	1	14'	8' to 10'	1 in 10	ditto	..	6' x 6'	5 ch.	adit	539	159	698	5,852	6,550	..	2	horse	..	..	..	"	..
Mount Wallace, Stirling ..	Shore, T. ..	5	brown	1	20'	8' to 14'	1 in 14	"	..	9' x 7'	51 ch.	inclined	16,149	2,378	18,527	56,373	74,900	11	29	oil-engine steam & compressed air	2' 6" three-throw pump	6" 280' row	..	fan	4/10/06
Taratu, Taratu ..	Carson, W. (N.Z. Coal and Oil Co., sec.)	30	"	3	50' in aggregate	all	1 in 14 to 1 in 4	"	..	6' diam.	360'	..	62,509	35,311	97,820	2,002,727	2,100,547	59,272	831	..	..	..	..	..	..
Kaitangata and Kaitangata ..	O. G. Lockhart, (sec.)	13	"	4	50' in aggregate	"	1 in 14 to 1 in 4	"	..	11' x 6' 6" 9' diam.	45 ch.	..	..	..	..	..	..	..	..	..	..	..	..	furnace	..
Castle Hill, Kaitangata ..	Irvine, J. ..	2	"	..	..	8'	1 in 6	bord and pillar	..	..	..	adit	60	..	60	69	193	1	1	hand	..	..	..	natural	..
Port Arthur, Kaitangata ..	Smith, J. ..	26	"	1	10' 6"	8'	1 in 6	"	..	..	..	..	160	..	160	1,706	1,866	..	1	..	..	..	..	"	..
Wangaloa, Kaitangata ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	"	..

* Prior to 1860 this mine had produced 108,198 tons, which are included in the additions at end of statement.

Mainholm, Waipahi	Lieschner, W.	21	lignite	1	15'	all	open	..	..	open	3,196	42,532	45,728	8	3	horse	centrifugal steam-dri ven	..	..
Private Pits.																			
Drummuir, Brighton	Londen, A.	2	brown	1	..	..	..	..	..	adit	1	40	41	1	1	..	..	..	..
Lakeside, Lovell's Flat	McGilvray, W.	6	..	1	..	..	..	..	..	..	29	846	875	..	..	..	..	..	..
Central Otago.																			
Coal Creek (leasehold), Coal Creek Flat	Barber, J.	36	lignite	1	80'	all	open	..	..	open	2,165	39,400	44,040	5	5	horse	..	..	23/5/06
		5	..	1	..	..	bord and pillar	1	6' x 7'	..	2,475	..	..	..	..	hand	..	..	23/5/06
McPherson's, Coal Creek Flat	McPherson, A.	36	..	1	80'	30' to 40'	open	..	..	open	4,886	39,160	43,936	6	6	horse	..	..	23/5/06
Perseverance, Coal Creek Flat	Craig, W. (permit)	19	..	1	99'	70'	open & adit	..	..	open & adit	3,373	33,443	36,816	4	2	Paton wheel & winch	hydraulic jet pump	..	23/5/06
Alexandra, Alexandra	Mathias Bros. and Co. (owners); Hunter, A. (manager); Pollock, J.	26	brown	1	14'	7'	bord and pillar	25' x 2' 6"	6' x 4'	adit	6,010	50,430	56,678	2	11	steam	Snow pump	furnace and natural	20/12/06
Undaunted, Alexandra		7	..	1	7'	6'	ditto	15' x 2' 6"	..	shaft	..	3,159	3,159	..	..	horse	water-bucket	..	..
Alexandra Coal Company, Alexandra		8	..	1	28'	8'	bord and pillar	1	6' x 4'	60'	8,183	59,274	63,104	6	16	steam	three-throw ram pump & Snow pump	..	29/9/06
Cambrian's, Cambrian's	Dungey, C.	22	lignite	1	9'	all	open	..	..	open	36	14,412	14,448	1	..	horse	..	..	..
Welshman's Gully, Cambrian's	McGuckin, J.	45	..	1	80'	all	..	..	..	..	342	32,198	32,540	2	..	..	..	..	25/10/06
Jones', Cambrian's	Jones, R.	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25/10/06
Blackstone Hill, Blackstone Hill	Armitage, James	40	..	1	unknown	16'	..	..	..	..	214	4,494	4,708	1	..	horse	..	..	24/10/06
St. Bethan's, St. Bethan's	Enwright, J.	9	..	1	17'	all	..	..	..	..	403	3,338	3,741	2	..	..	..	..	24/10/06
Beck's Idaburn, Idaburn	Beck, W., Mrs.	20	..	1	35'	..	..	..	..	..	1,137	20,116	21,233	4	..	..	..	..	24/10/06
McLean's, Idaburn	M. Beck (owner)	1	..	1	15'	..	..	..	..	..	..	1,137	1,137	..	..	..	..	..	24/10/06
Idaburn, Idaburn	White, J.	36	..	1	20'	..	..	..	..	..	1,170	36,600	37,770	2	..	horse	..	..	24/10/06
Border, Rough Ridge	Roebuck, W.	35	..	1	12'	..	..	..	..	..	..	7,375	7,375	..	..	..	two Douglas pumps, water-driven	..	..
Gimmerburn, Gimmerburn	(trustee), Oamaru	50	..	1	12'	..	..	..	..	..	48	2,831	2,869	1	..	hand	..	..	..
Vincent, Olyde	Docherty, C.	..	brown	2	40'	14'	levels	..	..	dip	1,469	20,805	21,774	..	..	..	..	..	..
Dairy Creek, Olyde	Smith, George, Olyde Collieries Company (owners)	34	..	2	40'	14'	..	..	..	ditto	2,728	20,089	23,817	2	8	steam	..	..	16/8/06
Fraser's River, Olyde	A. E. Aclroyd (sec), Dunedin	4	..	1	6'	all	bord and pillar	5' x 4'	..	incline tunnel	298	1,140	1,433	..	2	horse	..	..	18/5/06
Cardrona, Cardrona	McDougall, R.	23	..	1	30'	..	vertical	..	..	open	1,744	18,891	20,635	7	..	..	..	..	11/12/06
Gibbeton, Gibbeton	Duncan, J.	20	..	1	30'	..	1 in 2	..	..	adit	1,199	13,081	14,280	1	5	hand & steam	..	..	18/12/06
Kawarau, Bannockburn	Cromwell and Bannockburn Collieries Co., T. K. Hart, managing director, Dunedin; A. S. Gilders, mine-m'gr., M c C a b e, J. E. (permit)	29	..	1	10'	6'	bord and pillar	1	6' x 6'	incline	2,344	41,944	44,288	4	9	steam	..	..	18/5/06
Excelsior, Bannockburn		14	..	1	6'	5'	ditto	1	6' x 6 1/2'	..	7,128	31,104	33,332	4	16	..	ditto	..	18/5/06
Bannockburn, Bannockburn		17	..	1	6'	5'	level & heading	1	6' x 4'	adit	858	16,375	17,233	..	..	..	..	..	18/5/06
Cairnmuir, Bannockburn		4	..	1	12'	8'	vertical	..	..	shaft	1,860	3,184	5,044	1	5	..	..	..	30/8/06
Nevis, Nevis	Scott, C. (permit)	13	..	1	20'	all	open	..	..	open	396	5,199	5,589	1	..	hand	..	..	19/12/06
Ryders, Nevis	Scott, C.	6	..	1	45'	..	..	..	..	..	81	3,136	3,217	1	..	..	..	..	19/12/06
Ritchie's, Nevis	Ritchie, Robert	4	..	1	..	..	..	..	..	..	1,669	2,188	3,857	3	..	..	..	..	18/12/06
Ritchie's (late Graham's), Upper Nevis	Ritchie, James	3	..	1	..	all	open	..	..	open	..	140	140	..	..	..	..	..	..

STATISTICS OF WORKINGS IN COAL-MINES, 1906—continued.

Name of Mine and Locality.	Name of Manager.	Number of Years worked.	Quality of Coal.	No. of Beams worked.	Thickness of Beams.	Thickness worked.	Dip of Beams.	System of Underground.	Number of Shafts.	Dimensions of Shafts.		Output delivered by	Output for 1906.			Approximate Total Output to 31st December, 1906.	Approximate Total Output to 31st December, 1906.	Number of Men ordinarily employed.			Power used for drawing Mineral.	Pumps.		Means of Ventilation.	Date of Inspector's Last Visit.	
										Size of Shaft or Adit.	Depth of Shaft or Length of Adit.		Coal.	Slack.	Total.			Above.	Below.	Total.		Stroke.	Size of Barrel.			Height of Column.
CENTRAL OTAGO—continued.																										
Private Pits.																										
Kyeburn, Kyeburn Diggings	Coombs, W.	23	brown	1	12'	all	vertical	levels open	..	..	..	adit	Tons. 6	Tons. 6	Tons. 15,452	15,452	..	1	1	2	horse	windmill	..	natural	..
McKnight's (late Price's), Blackstone Hill	McKnight, D.	9	lignite	1	12'	..	..	..	..	..	..	open	4	4	162	166	1	..	..	..	..	..	..	..	..
Angel's, Bannockburn	Angel, C. J.	4	brown	1	..	..	..	..	..	..	..	..	3	..	11	14	1	..	..	..	..	..	..	..	..
SOUTHLAND.																										
Pukerua, Pukerua ..	O'Hagan, C.	26	lignite	1	16'	8' to 10'	1 in 10	bord and pillar	1	8' x 8'	11 ch.	adit	748	..	748	32,408	33,146	1	2	3	horse	windmill	..	natural	19/6/06	
Nelson's, Pukerua ..	Nelson, J. H.	17	..	1	16'	10'	..	..	..	..	..	..	252	..	252	3,382	3,684	..	1	1	hand	Douglas	..	..	18/6/06
Hoffman's, East Gore	Hoffman, T.	1	..	1	..	..	..	..	..	..	..	..	408	..	408	408	408	..	1	1	..	..	..	..	18/12/06
Whiterigg, Gore ..	Hartley, J. (per- mit)	24	..	1	18'	13'	1 in 20	bord and pillar	1	6' x 5'	2 ch.	incline tunnel	2,058	..	2,058	24,522	26,580	2	2	4	horse	Tangye	..	..	18/12/06
Hoffernan's, East Gore	Burgess, W. C. (per- mit)	28	..	1	11'	8'	..	levels & headings	1	6' x 5'	..	ditto	1,376	..	1,376	11,050	12,426	..	2	2	..	hand-pump	..	..	9/10/06
Boosedale, Gore ..	Mitch, A.	20	..	1	7'	all	..	bord and pillar	..	..	5 ch.	open	944	..	944	4,103	5,047	1	..	1	..	..	..	..	11/9/06
Green's, Gore ..	Mason, J.	18	..	1	22'	17'	1 in 20	bord and pillar	1	10' x 8'	..	incline tunnel	7,882	..	7,882	58,859	66,741	3	5	8	..	Tangye	..	natural	18/12/06	
Smyth's, Gore ..	Smyth, John (per- mit)	10	..	1	20'	15'	1 in 20	ditto	..	..	..	ditto	1,141	..	1,141	7,107	8,248	1	3	4	..	..	..	..	18/12/06
River View, Gore ..	Nicol, L. D.	15	..	1	..	all	..	open	..	..	..	open	140	..	140	1,458	1,598	1	..	1	hand	..	..	..	..
Tait's Bushy Park Estate, Croydon	Jas. R. Tait and Co.	1	..	1	114' to 20'	..	..	..	..	..	..	..	2,746	..	2,746	..	2,746	4	..	4	horse	..	..	..	18/12/06
Boornwell, Chatton	Stark, J. (permit)	7	..	1	16'	12'	1 in 10	levels & headings	..	20' x 12'	100'	adit	4,252	..	4,252	6,928	11,180	..	5	5	..	hand-pump	..	natural	18/12/06	
Pacey's (freehold), East Chatton	McIvor, W. (per- mit)	3	..	1	30'	10' to 12'	..	open	..	..	..	open	5,126	..	5,126	17,635	22,761	5	8	8	steam	ditto	..	..	18/12/06
East Chatton, East Chatton	Perkins, A.	4	..	1	30'	20'	1 in 5	..	..	..	..	..	1,540	..	1,540	3,210	4,750	2	..	2	hand	..	..	..	18/12/06
Chatton, Chatton ..	Beath, A.	2	..	1	..	..	..	..	..	..	..	..	428	..	428	955	1,383	2	..	2	..	..	..	..	16/10/06
Thorndale, Waikaka Valley ..	Raunsey, F.	7	..	1	10'	all	..	..	..	..	..	..	1,466	..	1,466	6,467	7,938	1	..	1	horse	..	..	..	9/10/06
Springvale, Waikaka Valley	McColl, D. (per- mit)	13	..	1	10'	all	..	..	..	..	..	..	2,576	..	2,576	12,108	14,684	2	..	2	..	..	..	..	10/7/06
Willow Bank, Waikaka Valley (latey Reed's)	Jones, William (permit)	10	..	1	15'	..	..	..	..	..	..	..	6,260	..	6,260	15,835	22,095	1	5	6	steam	two Douglas pumps	..	natural	10/9/06
Glenlee, Wendon Valley ..	McGill, D. T. (per- mit)	13	..	1	14'	8'	..	levels & headings	..	10' x 8'	2 ch.	adit	784	..	784	8,531	9,265	..	1	1	..	..	..	..	15/10/06
McDonald's, Wendon	Coulter, S. (permit)	7	..	1	16'	13'	..	ditto	..	12' x 12'	..	incline tunnel	3,481	..	3,481	9,818	13,299	1	3	4	steam	..	..	..	15/10/06
Landlip, Landlip, Waikaka	Brown, R.	15	..	1	18'	8'	..	..	..	..	..	..	7,056	..	7,056	9,675	16,731	4	13	17	..	..	..	..	11/10/06

Kyle's (late Rear's), Landalip, Waikato	Kyle, W. (permit)	8	lignite	1	10'	all	1 in 8	levels & headings	6 x 4'	adit	1,817	1,817	1,107	2,924	6	6	hand	natural	11/10/06
Rossvale (late Ross's), Landalip, Waikato	Bond, J. (permit)	8	-	1	10'	6'	..	bord and pillar	6' x 5'	..	2,426	2,426	1,292	8,718	6	6	..	..	11/10/06
Monaghan's, Landalip, Waikato	Young, T. G. (permit)	2	-	1	7'	all	..	levels & headings	6' x 4'	100'	1,300	1,300	1,377	2,677	8	3	..	..	11/10/06
Muddy Terrace, Landalip, Waikato	Goldie, T. F. ..	4	lignite & shale	1	17'	..	..	open	..	open	8,178	8,178	5,066	8,244	4	4	horse	..	28/8/06
Argyle, Upper Waikato	Baxter, J. and T. ..	15	lignite	1	10'	..	..	..	..	..	252	252	2,753	3,005	2	2	hand	..	22/8/06
Beer's, Mosburn ..	Beer, Mrs. G. (owner)	4	-	1	..	..	..	..	..	..	56	56	110	166	1	1	..	..	..
Radford's, Balfour ..	Fitzgerald, E. (owner)	2	-	..	..	..	..	..	..	..	152	152	10	162	1	1	..	..	..
Mataura Coal-mine, Mataura Boghead, Mataura ..	Sleeman, C. P. ..	10	-	1	17'	all	..	..	..	..	8,315	8,315	86,241	94,456	7	7	horse	..	10/10/06
Mataura Lignite Mine, Mataura	Cameron and Duncan, lessees	10	-	1	16'	..	..	..	..	..	375	375	5,337	5,712	4	4	..	Douglas pump water - driven centrifugal steam - driven	10/10/06
Mataura Lignite Mine, Waimumu	Coster, W. ..	30	-	1	17'	..	..	..	..	..	7,427	7,427	51,315	58,742	9	9	..	..	10/10/06
Waimumu, Waimumu	Williams, W. J. ..	7	-	3	6' 6"	..	..	..	..	..	4,814	4,814	15,781	20,095	10	10	..	..	17/10/06
Ota Creek, Wyndham	Shields, William	26	-	1	6'	..	..	..	..	..	350	350	12,824	18,174	1	1	..	..	..
Genge's, Wyndham	Genge, E. ..	2	-	..	..	..	..	..	..	..	497	497	415	912	1	1	..	..	..
Robin Hood, Pine Bush	Couser, William	25	-	1	15'	..	..	..	..	..	155	155	2,384	2,489	1	1	..	..	..
Graham's, Fairfax ..	Graham, P. S. ..	28	-	1	5' 6"	..	1 in 20	bord and pillar	..	6 ch.	529	529	15,347	15,776	2	2	hand	..	..
Iala Bank, Fairfax ..	Slattery, M. ..	26	-	1	5'	..	..	open	..	open	..	..	6,665	6,665	..	..	..	..	..
Ardlowe, Fairfax ..	Poole, E. ..	4	-	1	..	..	..	open and	4' x 4' 6"	39 ch.	147	147	278	425	1	1	steam and	..	..
Nightcaps, Nightcaps	Lloyd, J. ..	25	brown	3	36' in aggregate	24' in aggregate	variable to 1 in 7	bord and pillar	4' x 4' 6"	..	48,976	48,976	469,463	518,439	29	54	..	fan	14/12/06
Hit or Miss, Nightcaps	Tinker, W. (permit)	6	-	1	..	..	..	bord and pillar	5' x 5'	..	524	524	1,926	2,450	1	2	horse	natural	27/9/06
H.B., Nightcaps ..	McKenzie, D. (permit)	8	-	1	6' 6"	all	..	open	..	open	608	608	4,242	4,845	2	5	7	..	27/9/06
Morley, Nightcaps ..	Spence, G. R. ..	3	-	1	..	..	..	..	..	..	1,167	1,167	2,691	3,858	2	2	..	..	27/9/06
McBride's, Nightcaps	Reed, W. (permit)	6	-	1	10'	..	..	..	..	..	569	569	4,243	4,812	1	2	..	..	27/9/06
The Willow, Nightcaps	Clark, John ..	7	-	1	14'	..	..	open	..	open	330	330	1,471	1,801	2	2	..	natural	27/9/06
Manuka Hill, Nightcaps	Groves, G. ..	2	-	1	..	..	..	..	..	..	256	256	8	264	2	2	..	..	27/9/06
Hogan's, Orepuki ..	Hogan, C. ..	2	lignite	..	..	..	..	..	..	..	4	4	16	20	1	1	..	..	27/9/06
Bush Siding, Seaward Bush	Raymond, I. W. (owner); Bownden F. (manager)	4	brown	1	120'	all	..	..	..	..	1,240	1,240	1,958	3,198	8	3	..	..	28/8/06
Clifton, Clifton ..	Gillies, T. ..	5	-	..	..	..	..	..	..	..	..	..	297	297	..	..	..	..	..
Private Pits.																			
Waverley Park, Pukerua	Milne, James ..	5	lignite	1	7'	all	..	open	..	open	..	..	24	24	..	..	..	..	..
Mason's, Pukerua ..	Mason, A. M. W. ..	5	-	1	7'	..	..	..	..	..	24	24	106	106	..	..	..	..	..
Glover's, Pukerua ..	Glover, Thomas ..	9	-	..	..	..	..	..	..	..	25	25	134	159	..	..	..	..	..
Smith's, East Gore	Smith, R. ..	5	-	1	14'	all	..	..	..	..	..	..	44	44	..	..	..	..	..
Smith's, East Gore	Smith, H. ..	4	-	1	7'	..	..	..	..	..	..	..	47	47	..	..	..	..	..
Leitze's, Gore ..	Leitze, M. ..	27	-	1	4' to 7'	..	..	..	..	..	17	17	1,535	1,535	..	..	..	..	..
Cross's, Orama ..	Cross Bros. ..	8	-	1	4'	..	..	..	..	..	13	13	166	169	..	..	..	..	..
Ford's, Chaiton ..	Ford, P. ..	26	-	1	..	..	..	..	..	..	44	44	564	608	..	..	..	..	..
Perkins's, Wenden Valley	Perkins, G. A. ..	5	-	1	7'	..	..	..	..	..	6	6	42	48	..	..	..	..	..

STATISTICS OF WORKINGS IN COAL-MINES, 1906—continued.

Name of Mine and Locality.	Name of Manager.	Number of Years worked.	Quality of Coal.	No. of Beams worked.	Thickness of Beams.	Thickness worked.	Dip of Beam.	System of Underground Working.	Number of Shafts.	Dimensions of Shafts.		Output delivered by	Output for 1906.			Approximate Total Output to 31st December, 1906.	Approximate Total Output to 31st December, 1906.	Number of Men ordinarily employed.			Power used for drawing Mineral.	Pumps.		Means of Ventilation.	Date of Inspector's Last Visit.	
										Size of Shaft or Adit.	Depth of Shaft or Length of Adit.		Coal.	Slack.	Total.			Above.	Below.	Total.		Stroke.	Size of Barrel.			Height of Column.
SOUTHERN DISTRICT—continued.																										
SOUTHLAND—continued. Radford's, Wendon ..	Scott, John, owner ..	16	lignite	1	20'	all	vertical	stopping	..	..	..	incline tunnel	Tons. ..	Tons. ..	Tons. 4,751	Tons. 4,751	..	..	..	horse	..	..	natural	..
Studholme's, Blackmount ..	Studholme, H. ..	..	..	..	..	open	..	..	..	..	..	..	44	..	44	14	58	..	..	..	..	..	..	..
Linwood, Te Anau ..	Ross and Co., D. ..	6	lignite	..	..	open	..	..	..	..	..	..	250	..	250	520	770	1	..	..	..	..	..	..
Wyndham, Wyndham ..	Irvine, D. ..	11	..	1	..	all	..	..	..	..	..	open	..	..	..	325	325	..	..	..	..	..	..	..
Mount Linton, Nightcaps ..	Gates & McGregor ..	13	brown	1	10'	8'	..	..	..	..	..	..	10	..	10	634	644	..	..	..	..	..	..	..
Output of mines included in 1905 statement, but whose operations are suspended	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1225260	..	..	..	..	..	..	..	..
Totals, Southern District, Middle Island	..	..	..	..	..	..	..	..	..	..	..	..	391,731	73,704	465435	7017463	7482898	382	799	1131	..	..	..	..
Totals, West Coast District, Middle Island	..	..	..	..	..	..	..	..	..	..	..	..	791,917	170998	963915	10501688	11464598	731	1313	2044	..	..	..	..
Totals, North Island	..	..	..	..	..	..	..	..	..	..	..	..	268,841	92,845	801186	3842908	4144094	111	406	517	..	..	..	..
Grand Totals	..	..	..	..	..	..	..	..	..	..	..	..	1452489	277,047	1739596	21362054	23091590	1174	2518	3692	..	..	..	..
Add output of following eleven mines, included in previous statement but now abandoned : Motupipi, 360 tons ; Westport-Wallsend, 3,441 tons ; Waimangaroa, 17,307 tons ; Wellington, 2,299 tons ; Inkerman, 2,665 tons ; Ingilewood, 814 tons ; Devil's Creek, 343 tons ; Inangahua, 71 tons ; Murray's Creek No. 2, 450 tons ; Burke's Creek, 300 tons ; Reefton, 36 tons : total																										
Output of mines included in statement for 1890, but whose operations were suspended prior to 1890 (less three, which are again included in body of statement—namely, Hill's Creek, 779 tons ; Lovell's Flat, 323 tons ; Wyndham, 1,988 tons : total, 3,090 tons)																										
Output of mines included in former statements, but whose operations were suspended prior to 1889																										
Output of Waikaka, Adam's Flat, and Waimea Mines, inserted twice in statement for 1891																										
28,490,955																										

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1907.
NEW ZEALAND.

STATE COAL-MINES

(REPORT ON THE WORKING OF) FOR THE YEAR ENDING 31st MARCH, 1907.

Presented to both Houses of the General Assembly in accordance with the requirements of Section 108 of "The Coal-mines Act, 1906."

W. C. GASQUOINE, Esq., Manager, State Coal-mines Department, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,— State Coal-mines Department, Wellington, 8th July, 1907.

I have the honour to submit the annual report on the transactions of this Department for the period ended the 31st March last.

The aggregate quantity of coal dealt with was 196,509 tons 2 cwt., valued at £158,097 6s. 4d. Figured separately, Point Elizabeth Colliery supplied to:—

	Tons	cwt.	qr.	Value. £ s. d.
Railways	91,502	4	1	89,344 19 3
Private consumers (including shipping companies)	67,530	15	2	40,348 3 7
Government Departments other than Railways	4,445	3	3	3,832 15 3
Totals	163,478	3	2	133,525 18 1

Of this quantity 4,236 tons 17 cwt. 3 qr., value £3,870 10s. 5d., was disposed of through the medium of the hulks.

The excellent quality of this coal is now being realised, and it is much sought after not only for household purposes—for which it has few if any equals—but also as a steam-producer. With some slight alterations in furnaces the small coal has been found to give general satisfaction, and one of its greatest advantages is that it does not burn the firebars.

The demand at present far exceeds the supply, but patience has to be exercised, as the development of such a large field has to be gradually and carefully carried out.

The Seddonville Colliery supplied to—

	Tons	cwt.	qr.	Value. £ s. d.
Railways	15,706	3	1	14,007 6 10
Private consumers (including shipping companies)	16,611	9	2	10,129 2 11
Government Departments other than Railways	713	5	3	434 18 6
Totals	33,030	18	2	24,571 8 3

Of this quantity 718 tons 6 cwt. 1 qr., value £677 1s. 7d., was disposed of through the medium of the hulks.

1—C, 3B,

A good deal of what is termed "soft coal" exists in this mine, but first-class hard coal is also obtainable. Owing, however, to the preponderance of slack—for which there is practically no market—it was considered injudicious to actively push on matters until such time as the briquette-works in course of construction were completed, consequently sales were limited. The works have now been finished, and are capable of turning out about 150 tons of briquettes and eggettes daily. If these are found to be a good marketable article, and the mine-manager's anticipation as to a run of good hard coal is realised, it augurs a much brighter future for the Seddonville Colliery.

During the year depots for the sale and distribution of State coal were opened at Wellington and Christchurch. These having fulfilled the purpose for which they were initiated, another has recently been opened at Wanganui. It might be as well, however, to state that it will be advisable to exercise caution in opening new depots: population is the chief factor in the success of such undertakings, and it may be necessary to find some other means of distributing our coal in the smaller districts.

I have, &c.,

W. C. GASQUOINE,
Manager State Coal-mines Department.

Mr. JAMES BISHOP, Manager of State Coal-mines, to the UNDER-SECRETARY FOR MINES,
Wellington.

SIR,—

Greymouth, 3rd July, 1907.

I have the honour to submit my annual report on the State coal-mines for the year ending 31st March last.

POINT ELIZABETH COLLIERY.

Underground Developments.

The underground workings of the colliery are divided into three sections, and the principal operations for the year have been confined to sections 1 and 2. In No. 1 section the main dip heading has reached a distance of 25 chains from the starting-point at upper level, and in No. 2 the distance of main heading from the level is 45 chains.

The continuation of the dip headings has proved the inclination of the seam to be fairly uniform, the average dip being at the rate of one in five. The thickness of seam is approximately 10 ft. throughout, and the quality continues satisfactory. The water, which was expected to increase as the headings were extended, has not done so to any appreciable extent, and is easily dealt with by the pumps working one shift daily.

Coal-winning.

No. 1 section produced 98,001 tons 16 cwt. during the year, and No. 2 75,880 tons 16 cwt. making a gross total of 173,882 tons 12 cwt., from which has to be deducted the quantity used at the works and small coal put to spoil during the period. Thus there was available for market 166,320 tons 18 cwt.—a substantial increase over the years 1905–6.

No. 3 section yielded no output during the year, as coal from this section cannot be profitably won and handled until a connection has been formed with No. 2 dip workings. This connection is being proceeded with, and when complete it is hoped that the output of the colliery will be considerably augmented from the workings to be opened in No. 3.

The accompanying plan shows the relationship of the several sections, and the direction in which the workings are being extended; and it may be explained that the necessity for the colliery being worked in separate sections is due to faults which traverse the field in the directions shown on plans.

Surface Works.

The whole of the buildings and machinery have been maintained in good and efficient repair, and new buildings have been erected during the year for (a) storage of mine-requisites, (b) lamp cleaners' and repairers' cabins, (c) shelter-shed for workmen waiting to go on shift, (d) engine and boiler houses for new plant.

The haulage-engines and air-compressor engines, mentioned in my last year's report, have been completely installed and substantially housed.

The hauling-engines cannot be fully utilised pending additional coal-tubs being provided, the construction of these is being pushed on with at the colliery workshops.

The air-compressing plant is in continuous use (three shifts daily); the 4 in. pipe-line laid for the conveyance of air underground is 5,500 ft. long. The air is being utilized for actuating pumps and hauling-engine in the No. 1 dip section. A similar installation is being got ready for the No. 2 section, and will be in operation at an early date.

The application of the compressor so far has proved to be both convenient and economical in working. The engines have worked well from the start.

The surface hauling plant, the screening plant, and coal-tipping appliances continue to work satisfactorily, and with the minimum of cost in manipulation and repairs.

The sawmill continues to be of great service, not only in connection with the supply of timber for colliery buildings and for underground use, but also for the preparation and supply of timber for the building of workmen's homes.

Exploration.

Exploratory work by boring from the surface has been carried on in both working-sections by diamond drill, and the results show that the seam now being worked extends far beyond the point reached by the most advanced headings so far driven, and also that the thickness of the seam is being fully maintained. In this connection there is one adverse feature—the bores in No. 1 area have proved that there is a downthrow fault coursing east and west. The displacement due to this fault is 150 ft. (see section). The existence of this trouble will necessitate the making of special arrangements for winning the coal from the dip side, but for this there is no immediate urgency.

The total boring done amounts to 965 ft., in two holes. The new diamond boring-machine recently imported, and capable of boring 1,500 ft., has been working most successfully on the above work. It was found necessary to make some alterations to the machine on arrival here, and these having been done the machine is working perfectly.

The surface outcrops have also received careful examination, more especially on that portion of the reserve lying to the north of the present colliery, and there extending over, approximately, 4,000 acres. Six seams of coal have been traced, ranging in thickness from 3 ft. to 21 ft. Several of these seams possess all the properties essential to first-class coal, and in many respects they are superior to the best coal at present produced within the colony.

Harbour and Shipping Facilities.

The frequent blockage of the Port of Greymouth, due to heavy seas rendering the bar unworkable, or to floods in the Grey River, still continues to be the principal hindrance to the progress of the coal-mining industry on this field.

It may also be noted that when the bar is workable and shipping abundant the facilities for berthing vessels and for the handling of cargo inward and outward appear inadequate for the work required to be done.

As serving to illustrate the effect on the output of coal, it may be mentioned that the possible working-days for 1906-7 were 282, which were reduced by thirty-three days owing to lack of shipping from causes above referred to. Thus 12·8 per cent. of the time was lost, and the output was reduced by at least 20,000 tons.

The general effect of such frequent interruption of work is to reduce the output, also the earnings of the workers, and increase the average cost of production.

Accidents.

Accidents of a minor character occurred during the year, and two of a somewhat serious nature, but no fatality.

The payments made under the provisions of the Workers' Compensation for Accidents Act—being at the rate of 50 per cent. of wages earned prior to the accident—amounted to £953 4s. 1d., being at the rate of 1·375d. per ton of coal sent to market, which is somewhat lower than is given under similar provisions applying to the coal-miners of the United Kingdom.

Employees.

There were employed during the year a total of 271 men and youths in connection with coal-winning, 140 being coal-hewers, 111 other classes of labour, and 20 youths. Average time made, 4·81 days per week; hewers' average daily earnings, 14s. 4·35d.

Future Developments.

The future developments of the present colliery, so far as the underground workings are concerned, will be mainly carried on towards the dip of the field where the coal maintains its full thickness; and in addition to the present seam there is another workable seam 200 ft. lower to be won by cross-measure drifts, and it may be found advantageous to sink a shaft on the dip as

the workings extend in that direction. This would facilitate the ventilation of the workings and the better handling of the output, which is rapidly increasing, and the demand points to a still more rapid increase being required in the near future, mainly for forced-draft ships and manufacturing purposes. To meet this demand the seams of coal lying undeveloped to the north should be opened up; from these a very large output can easily be maintained, and the requirements of all classes of trade could be met.

General.

In the conduct of the workings of the colliery and the several works connected therewith it has been the aim of the management to keep down costs of production and other expenditure to the lowest, consistent with safety and efficiency.

The necessity for the rapid driving of the winning-places to keep the ground opened up in advance of the general workings, and the frequent interruption of work to which the colliery is liable, have tended to keep cost of production higher than desirable.

The agreement in force for regulating the rates of pay and other matters affecting the workers employed is working well.

In conclusion, permit me to say that the officers in all departments have discharged their duties in a most satisfactory way, and the Consulting Engineer has rendered valuable assistance in connection with the rapidly extending works.

SEDDONVILLE COLLIERY.

Underground Developments.

During the past year the principal work connected with coal-winning has been carried on in the extension of the field south of Chasm Creek.

In this new development a tunnel was driven in a direct line with the main haulage-road for a distance of 15 chains, from which workings have been opened mainly in a south-westerly direction, and a connection has been effected with an additional new area known as Dove's Heading. This connection has been made in a tunnel about 12 chains in length, and then by surface tram for a distance of 10 chains. The main heading in this area was driven a distance of 6 chains in good coal, when progress was interrupted by what appears to be an intrusion of granite, a very common form of trouble in this field.

The workings opened in the area just referred to give room for eighteen coal-hewers, the majority of places producing coal of excellent quality.

Some coal has also been won from the areas on the north side of Chasm Creek. The number of places in solid coal are limited. There are, however, considerable areas standing in pillars.

Coal raised.

The coal raised during the year amounted to 43,287 tons, from which has to be deducted the mine-consumption and waste, leaving available for market 32,970 tons.

The number of men employed during the year averaged ninety-two. The time worked per fortnight averaged 8 days 1 hour, and the coal-hewers' earnings averaged 14s. 1'23d.

There were no accidents of a serious character during the year.

Exploration.

With the object of testing the field in advance of the workings on the south side of Chasm Creek, several bores have been put down, the approximate position of which is shown on accompanying plan. Nos. 1, 2, and 3 are in a direct line with Dove's tunnel. No. 1 proved 7 ft. 6 in. of coal at a depth of 61 ft.; No. 2, 7 chains in advance of No. 1, failed to find coal, struck granite formation at 65 ft.; and No. 3, 13 chains in advance of No. 1, struck granite at 26 ft. Nos. 4 and 5 are on the line of main haulage-road. The former proved granite at a depth of 155 ft., no coal. No. 5 is in course of boring, as also is No. 6. The latter is midway between the line of the two tunnels. Taking the result of the boring so far as it has gone proves that the conditions on the south side of Chasm Creek are no improvement on those previously experienced on the north, and that the field continues to maintain the unsatisfactory characteristic of small areas of coal in the form of irregularly shaped basins detached from each other by granite.

The centres of the basins usually yield coal of good quality and thickness, but thinning towards the edges. It is this want of continuity in the field which has prevented proper and systematic development of the colliery, and, as indicated, recent explorations do not encourage the hope of any satisfactory change in the conditions of the field being met with.

Future Developments.

There is little to be said under this head, excepting that it will be incumbent upon the management to make careful examination of all surface indications, and thoroughly test the ground by bores prior to the more expensive operation of driving tunnels.

Utilisation of Small Coal.

One great drawback hitherto experienced in connection with this colliery has been the difficulty of finding a profitable market for the amount of small coal produced. The production of screened coal, for which there has always been ready sale, leaves about 50 per cent. of small to be disposed of. This, after rescreening for nuts—which also command a fair market—leaves practically 25 per cent. unmarketable small. Thus the cost of production is abnormally increased, and the chance of profitable working correspondingly lessened.

Now that the briquette plant, erected at Westport specially to treat this small and crushed coal, has been completed, it is to be hoped the waste will cease, and coal hitherto unsaleable find a market in the form of briquettes, the value of which for household use, locomotive-firing, and steam-raising generally cannot be doubted.

Assuming increased demand due to the briquette-works, there is abundance of the coal required at present standing in pillars which should be mined very cheaply. In any case, there should be an abundance of the cheaper class of small to keep the briquette-works fully employed, and the lump coal and nuts should be marketable at higher prices than those now current.

Surface Works.

The machinery, haulage-ropes, and works generally have been maintained in good order during the year.

In closing this report I would again call attention to the need for special care being exercised in connection with the prospecting of the field to avoid unnecessary expenditure, and at the same time secure the best possible results; and if the colliery is to be made commercially successful improved prices must be secured.

I have, &c.,

JAMES BISHOP, Manager.

The Under-Secretary, Mines Department, Wellington.

Buildings at mine—	..	..	477 18 0	430 2 2
Cost at 31st March, 1906	..	..	47 15 10	
Depreciation, 10 per cent.	..	..
Cottages—	..	..
Cost at 31st March, 1906	..	..	231 13 0	
Depreciation 10 per cent.	..	..	29 3 2	
Briquette plant	..	..
Briquette materials (stock on hand)	..	..	4,840 6 6	
Stores (stock on hand)	..	..	816 13 5	
Coal (stock on hand at mine)	..	..	280 0 0	
Coal (stock on hand at wharf and aloft)	..	..	89 10 2	
	..	..	169 10 2	
Point Elizabeth Railway Property Account—	..	..
Balance outstanding	..	..	..	48,006 10 6
Hulka Property Account—	..	..
Cost at 31st March, 1906	..	..	2,106 0 0	1,694 6 5
Depreciation, 10 per cent.	..	..	310 13 0	1,895 8 0
Christchurch Depot Property Account	..	..	4,452 14 4	4,854 0 1
Stocks on hand	..	..	401 5 9	1,889 10 6
Wellington Depot Property Account	..	..	827 18 0	162 11 6
Stocks on hand	..	..	1,061 12 6	
Wanganui Depot Property Account	..	..	..
Wellington office furniture—	..	..	62 12 8	
Cost at 31st March, 1906	..	..	50 1 0	
Additional outlay during the year	..	..
	..	..	112 13 8	
Depreciation, 10 per cent.	..	..	11 5 4	
Sundry debtors	..	..	..	101 8 4
Cash in hand and in the Public Account at 31st March, 1907	..	..	98,937 4 2	10,161 14 7
Less vouchers outstanding	..	..	14,979 15 2	80,847 9 0
	..	..		£195,998 8 11

Statement of General Profit and Loss Account for the Year ended 31st March, 1907.

		Dr.			Cr.		
		£ s. d.			£ s. d.		
To Point Elizabeth Colliery—							
Management and office salaries	..	1,971	1	1			
Rents ..	..	145	3	1			
Interest and exchange	..	2,608	8	0			
Travelling expenses	..	273	15	11			
Printing and stationery	..	313	13	3			
Telegrams and postages	..	673	15	0			
Repairs and maintenance	..	14,464	8	10			
Railway haulage ..	..	28	0	0			
Insurance ..	..	144	18	11			
Marine insurance ..	..	1,297	11	1			
Compensation for accidents and fund	..	186	7	0			
General expenses ..	..	43,083	19	0			
Marine freights ..	..	1,416	0	2			
Hulks Working Account	..	787	19	7			
Charges (Wellington)	..	36	4	6			
Bad debts ..	..	5,162	18	9			
Depreciation : mine, buildings, plant, and machinery	..	79,580	3	5			
Seddonville Colliery—							
Management and office salaries	..	710	15	6			
Rents ..	..	59	1	5			
Interest and exchange	..	2,050	12	7			
Travelling expenses	..	98	3	8			
Printing and stationery	..	98	15	1			
Telegrams and postages	..	90	2	3			
Repairs and maintenance	..	96	13	8			
Railway haulage ..	..	4,840	19	3			
Insurance ..	..	7	0	0			
Marine insurance	..	30	7	2			
Compensation for accidents and fund	..	215	1	6			
General expenses ..	..	104	19	6			
Marine freights ..	..	7,168	7	2			
Hulks Working Account	..	239	19	1			
Charges (Wellington)	..	265	2	4			
Bad debts ..	..	187	9	1			
Depreciation : mine, buildings, plant, and machinery	..	2,924	1	1			
Wellington Depot—					19,112 9 11		
Wages ..	..	2,080	0	1			
Salaries ..	..	884	0	0			
Rent ..	..	447	4	6			
Rates ..	..	58	10	10			
Interest and exchange	..	43	15	11			
Advertising ..	..	108	11	6			
Repairs and maintenance	..	164	8	5			
Telegrams and postages	..	14	17	0			
Printing and stationery	..	56	0	5			
Insurances ..	..	18	11	8			
Travelling expenses	..	40	16	10			
					110,286 9 7		
By Point Elizabeth Colliery Working Account: Gross profit		20,025 6 0					
Seddonville Colliery Working Account: Gross profit	..	12,612 18 1					
Wellington Depot Trading Account: Gross profit	..	5,163 18 1					
Christchurch Depot Trading Account: Gross profit	..	2,496 11 10					
Christchurch Depot: Rent	..	7 15 7					

Stable-expenses ..	405 14 3
Cartage ..	200 13 7
Sacks ..	87 14 1
Freights ..	28 2 9
General expenses ..	143 4 11
Loss of horses ..	50 0 0
Christchurch Depot—	4,826 6 4
Wages ..	750 18 11
Salaries ..	433 2 6
Interest and exchange ..	223 8 9
Advertising ..	103 1 5
Repairs and maintenance ..	7 18 6
Telegrams and postages ..	8 18 5
Printing and stationery ..	61 10 5
Insurances ..	6 5 0
Travelling-expenses ..	56 7 9
Cartage ..	686 6 5
Sacks ..	20 9 10
General expenses ..	89 2 7

Wellington Office Furniture Account—depreciation ..	2,493 5 6
Debiture sinking fund ..	11 5 4
Balance net profit for the year ..	2,800 0 0
	8,460 19 1
	£110,236 9 7

£110,236 9 7

Statement of Point Elizabeth Colliery Working Account for the Year ended 31st March, 1907.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Stock of coal on hand at 31st March, 1906	By Sales of coal ..	..	..	..
Coal-winning—				Stock of coal on hand at 31st March, 1907—			
Wages	At mine and wharf ..	1,225 2 1		
Materials used	AFloat ..	461 11 11		
Stores used..				
				Timber account, gross profits ..	1,636 14 0		
Balance, gross profits at mine		818 15 7		
					£135,531 7 8		

Statement of Point Elizabeth Colliery Profit and Loss Account for the Year ended 31st March, 1907.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Management and office salaries	1,971 1 0	By Balance of Working Account—Gross profits at mine	..	..	90,025 6 0
Rents	145 3 1				
Interest and exchange	2,603 8 0				
Travelling-expenses	272 15 11				
Printing and stationery	98 0 4				
Telegrams and postages	212 12 3				
Repairs and maintenance	673 15 0				
Railway haulage	14,464 8 10				
Insurances	23 0 0				
Marine insurance	144 18 11				
Compensation for accidents and fund	1,297 11 1				
General expenses	136 7 0				
Marine freights	43,083 19 0				
Hulks Working Account	1,416 0 2				
Charges (Wellington)	787 19 7				
Bad debts	36 4 6				
Depreciation : mine, buildings, plant, and machinery	5,162 18 9				
Balance, net profits for the year	72,530 3 5				
			17,495 2 7				
			<u>£90,025 6 0</u>				<u>£90,025 6 0</u>

Statement of Seddonville Colliery Working Account for the Year ended 31st March, 1907.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Stock of coal on hand at 31st March, 1906	388 14 8	By Sales of coal	..	..	24,571 8 3
Coal-winning—				Stock of coal on hand at 31st March, 1907—			
Wages	10,608 18 8	At mine	..	80 0 0	
Materials used	518 18 10	At wharf and afloat	..	89 10 2	
Stores used	616 8 2				
Balance, gross profits at mine	11,739 5 8				
			12,612 18 1				
			<u>£24,740 18 5</u>				<u>£24,740 18 5</u>

Statement of Seddonville Colliery Profit and Loss Account for the Year ended 31st March, 1907.

<i>Dr.</i>							<i>Cr.</i>			
	£	s.	d.	£	s.	d.		£	s.	d.
To Management and office salaries	710 15 6	..	..	..	By Balance of Working Account: Gross profit at mine	..	..	12,612 18 1
Reus	59 1 5	..	..	..	Balance: Loss	..	..	6,499 11 10
Interest and exchange	2,060 12 7	..	..	..		..	..
Travelling-expenses	98 3 8	..	..	..		..	..
Printing and stationery	88 15 1	..	..	..		..	..
Telegrams and postages	90 2 3	..	..	..		..	..
Repairs and maintenance	96 13 3	..	..	..		..	..
Railway haulage	4,840 19 2	..	..	..		..	..
Insurances	7 0 0	..	..	..		..	..
Marine insurance	30 7 2	..	..	..		..	..
Compensation for accidents and fund	215 1 6	..	..	..		..	..
General expenses	104 19 6	..	..	..		..	..
Marine freights	7,168 7 3	..	..	..		..	..
Hulks Working Account	239 19 1	..	..	..		..	..
Charges (Wellington)	255 2 4	..	..	..		..	..
Bad debts	187 9 1	..	..	..		..	..
Depreciation: mine, buildi ^g , plant, and machinery	2,924 1 1	..	..	..		..	..
				19,112	9	11				
				<u>£19,112</u>	<u>9</u>	<u>11</u>				<u>£19,112</u>

Wellington Depot Trading Account for the Year ended 31st March, 1907.

<i>Dr.</i>							<i>Cr.</i>			
	£	s.	d.	£	s.	d.		£	s.	d.
To Stock of coal taken over at 11th April, 1906	386 18 6	..	..	..	By Sales of Coal	..	..	16,900 14 4
Firewood taken over	36 16 0	..	..	..	Sales of firewood, coke, and charcoal ..	..	..	703 6 7
Charcoal	28 4 0	..	..	..		..	..
				451	18	6	Stocks on hand 31st March, 1907—			
Purchases, Point Elizabeth coal	8,686 12 3				Coal	..	..	993 0 6
Purchases, Seddonville coal	2,988 15 2				Firewood and charcoal	..	..	68 12 0
Purchases, firewood, coke, &c.	525 2 3							
				19,200	9	8				
Cartage to depot	859	7	2				
Balance, gross profits	5,153	18	1				
				<u>£18,665</u>	<u>13</u>	<u>5</u>				<u>£18,665</u>

Wellington Depot Profit and Loss Account for the Year ended 31st March, 1907.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Wages	2,080	0	1	By Balance of Trading Account, gross profits	5,153	18	1
Salaries	884	0	0				
Rents	447	4	6				
Rates	53	10	10				
Interest and exchange	43	15	11				
Advertising	103	11	6				
Repairs and maintenance	164	8	5				
Telegrams and postage	14	17	0				
Printing and stationery	56	0	5				
Insurances	18	11	3				
Travelling-expenses	40	16	10				
Cartage Account	606	7	10				
Sacks	87	14	1				
Freight	28	2	9				
General expenses	148	4	11				
Loss of horse	50	0	0				
Net profit for the year					4,826	6	4
					327	11	9
					<u>£5,153</u>	<u>18</u>	<u>1</u>

Christchurch Depot Trading Account for the Nine Months ended 31st March, 1907.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Purchase Point Elizabeth coal	5,020	15	11	By Sales of coal	9,854	14	7
Purchase Seddonville coal	1,068	17	4	firewood, coke, &c.	99	17	6
Purchases firewood, coke, &c.	79	8	10				
Haulage to depot	6,169	2	1	Stocks on hand, 31st March, 1907—			
Balance, gross profit	1,250	3	11	Coal	374	6	9
	2,436	11	10	Firewood, coke, &c.	26	19	0
	<u>£9,855</u>	<u>17</u>	<u>10</u>		401	5	9
					<u>£9,855</u>	<u>17</u>	<u>10</u>

Christchurch Depot Profit and Loss Account for the Nine Months ended 31st March, 1907.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Wages	750	18	11	By Balance of Trading Account, gross profits	2,486	11	10
Salaries	482	2	6	Reuts	7	16	7
Interest and exchange	222	8	9	Balance, loss	50	18	1
Advertising	103	1	5				
Repairs and maintenance	7	18	6				
Telegrams and postage	8	13	5				
Printing and stationery	61	10	5				
Insurances	6	5	0				
Travelling-expenses	56	7	9				
Cartage	686	6	5				
Sacks	90	9	10				
General expenses	89	2	7				
	<u>2,495</u>	<u>5</u>	<u>6</u>				
	<u>£2,495</u>	<u>5</u>	<u>6</u>				

Statement of the Receipts and Expenditure of the State Coal-mines Account for the Year ended 31st March, 1907.

<i>Dr.</i>		<i>Receipts.</i>		<i>Cr.</i>		<i>Expenditure.</i>		£	s.	d.	£	s.	d.
To Cash in hand and in Public Account at 31st March, 1906		By Point Elisabeth Colliery—	..	2,112	19	1	..	..	..
Sales of coal, Point Elisabeth		..	135,515	1	4	Property and development ..	..	10,808	16	7	..	..	..
Sales of coal, Seddonville		..	25,692	0	6	Machinery, plant, and rolling-stock ..	..	532	1	7	..	..	..
Recoveries—Sales, timber, stores, &c.		..	2,888	11	7	Buildings ..	..	6,907	9	6	..	..	..
Refunds	10	7	9	Stores and materials ..	..	43,064	2	7	..	..	..
						Wages ..	..	893	11	10	..	..	..
						Timber ..	..	801	6	11	..	..	..
						Wharfrage, &c. (Wellington)	..	..	..	..	64,119	8	1
						Seddonville Colliery—	..	..	..	..	..	..	..
						Property and development ..	..	1,088	13	2	..	..	..
						Machinery, plant, and rolling-stock ..	..	1,126	0	3	..	..	..
						Stores and materials ..	..	5,439	11	0	..	..	..
						Wages ..	..	10,517	14	0	..	..	..
						Briquelette plant ..	..	6,833	6	7	..	..	..
						Wharfrage, &c. (Wellington)	..	392	1	11	..	..	..
						Hulks Working Account ..	..	1,428	14	9	..	..	..
						Christchurch depot, property ..	..	2,209	18	10	..	..	..
						" working ..	..	1,515	10	6	..	..	..
						Wellington depot, property ..	..	877	18	0	..	..	..
						" working ..	..	4,885	5	3	..	..	..
						Wanganui depot, property ..	..	154	17	0	..	..	..
						Management and office salaries ..	..	8,998	11	0	..	..	..
						Rent ..	..	770	16	4	..	..	..
						Interest and exchange ..	..	4,927	19	9	..	..	..
						Marine freights ..	..	51,668	14	11	..	..	..
						Travelling-expenses ..	..	841	0	10	..	..	..
						Printing and stationery ..	..	288	5	7	..	..	..
						Telegrams and postages ..	..	325	19	11	..	..	..
						Repairs and maintenance ..	..	728	1	10	..	..	..
						Railway haulage ..	..	20,825	17	2	..	..	..
						Marine insurance ..	..	209	9	11	..	..	..
						Insurance ..	..	45	0	0	..	..	..
						Compensation for accidents and fund ..	..	1,905	4	7	..	..	..
						General expenses ..	..	411	0	1	..	..	..
						Wellington office furniture ..	..	50	1	0	..	..	..
						Rates ..	..	52	10	10	..	..	..
						Refunds ..	..	3	0	4	..	..	..
						Cash in hand and in Public Account at 31st March, 1907	..	95,827	4	2	..	..	..
						Less vouchers passed outstanding	..	14,979	15	2	..	..	..
								80,847	9	0	..	..	..
								£267,223	2	5	..	..	..

State Coal-mines Office, Wellington, 17th June, 1907.

Louis H. ELLERS, Accountant.

P. HEYES, F.S.A.A. Eng., Inspecting Accountant.

Examined and found correct.

J. K. WARBURTON,

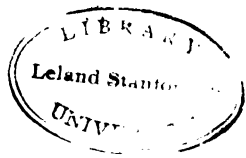
Controller and Auditor-General.

JAMES MCGOWAN,
Minister of Mines.

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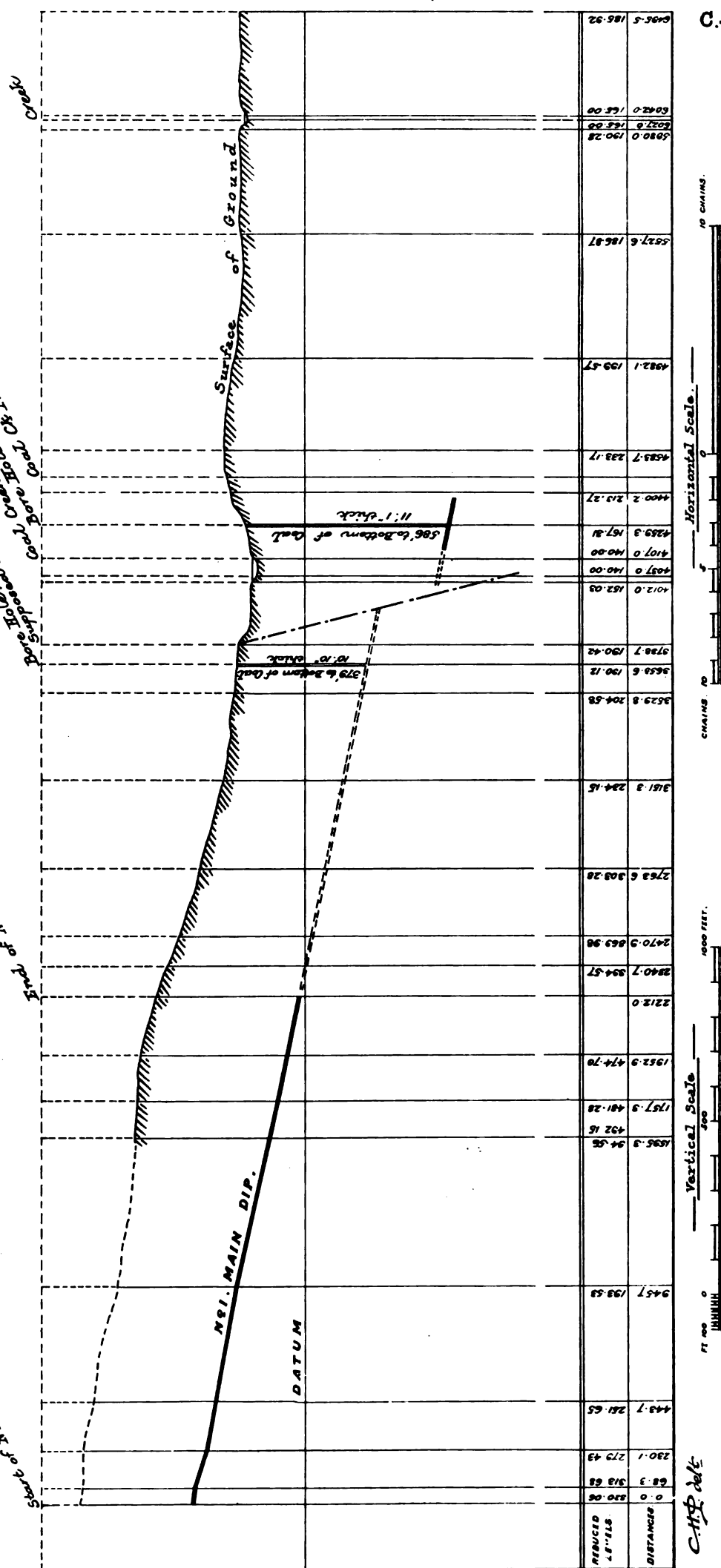
LONGITUDINAL SECTION

*R. H. Mann,
Author and Surveyor.*

James Bishop. M.I.M.E. Manager.

dig 1, 2, 3 or 2, 3 or 3

to May, 1907. Found in
Hole's Creek Ho. Ck. Track.
Bore, opp. coal
coal Bore coal



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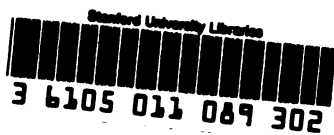
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